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ABSTRACT

An indepth study was performed to assess the present status of dissemination in the Education Division of the Department of Health, Education and Welfare, to develop a conceptual framework that would provide a rational base for a dissemination policy, and to recommend an organizational plan for the management of the dissemination activity within the division. The methods used included interviews with key persons; review of legislation, policy statements, and literature on dissemination and on business marketing organizations; analysis of dissemination practices of six selected federal programs; and analysis of dissemination program functions, products, targets, methods, and purposes. It was found that in the legislation dissemination was not precisely defined, overlapping roles had been assigned to the National Institute of Education (NIE) and the Office of Education (OE), and directives were confused and contradictory. NIE was found to have developed a comprehensive approach to dissemination based on a state capacity-building strategy, while OE has permitted a variety of bureau and division initiatives to obscure opportunities for an agencywide dissemination strategy. In addition, attempts to resolve the confusion and overlap have been unsatisfactory; research has learned more about dissemination models than about the improvement of dissemination practice. These findings are reported, accompanied by extensive documentation and charts, along with other results of this extensive survey. (JY)

ED122866

DEVELOPING A FRAMEWORK FOR THE DISSEMINATION OF EDUCATIONAL AND R&D PRODUCTS

REPORT TO THE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Contract Number: HEW-OS-100-75-0013

February 1976

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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IR 003 498

EXECUTIVE SUMMARY

Project Title: Developing A Framework For The Dissemination Of Educational And R&D Products And Services To Educational Practitioners

Contract Number: HEW-100-0013

Sponsor: DHEW, Office of the Assistant Secretary for Planning and Evaluation

Contractor's Name and Address:

Cresap, McCormick and Paget Inc.
245 Park Avenue
New York, New York 10017

BACKGROUND

In the past few years, considerable concern has been shown by Congress and the Secretary over the efficiency and effectiveness of dissemination. Within the Education Division, continuing attempts to clarify and account for the dissemination function were meeting with little success. OS identified shortcomings such as lack of a clear definition of goals, gaps in the assignment of agency roles, absence of a rationale for identifying products to be disseminated, or failure to identify market segments and their needs. In short, what was needed was a conceptual framework to serve as a rational base for a Divisionwide dissemination strategy.

The major objectives of this study therefore included:

- An assessment of the present status of dissemination in the Education Division
- Development of a conceptual framework that would provide a rational base for developing and implementing dissemination policy
- Recommendation of an organization plan for the management of dissemination activity within the Division.

Study methods followed these steps:

- Secured general view of activities and problems through interviews with key persons
- Reviewed legislation, policy statements, and literature on dissemination and on business marketing organization
- Studied dissemination practices and documents of six selected programs: TRIO, Title I, Vocational Education, NIE Basic Skills, Handicapped Education and Guaranteed Student Loans
- Analyzed program functions, products, targets, methods and purposes
- Developed conceptual framework encompassing all programs and identified required functions
- Developed proposed organization and management structure.

MAJOR FINDINGS

With regard to legislation on dissemination, it was found that:

- Dissemination has not been defined, and the use of the term has not been standardized.
- Overlapping roles have been assigned to NIE and OE and no clear basis for separating them has been provided.
- Thus, the Congress has imposed a set of directives that are confusing and contradictory, with the result that the development of clear policy and effective practice have been seriously inhibited.

The analysis of policy development has led to these major findings:

- NIE, with limited resources, has developed a comprehensive approach to dissemination based on a state capacity-building strategy, but questions may be raised as to how and when this strategy can attain the kind of results that may have been intended by Congress.

- OE, specifically excluded from the general responsibility for dissemination, has permitted a variety of bureau and division initiatives while neglecting the opportunities that may exist for an agencywide dissemination strategy.

- ASE attempts to resolve the confusion and overlap in dissemination responsibilities have been unsatisfactory, and thus ASE has failed so far to fulfill what might have been its organizational role.

- Research studies have so far contributed more to an understanding of dissemination models than to the improvement of dissemination practice.

- Large diversified business organizations have solved dissemination or similar problems through marketing practices and organizations, but these solutions appear to have received little attention in the field of education.

An assessment of dissemination practices in six selected programs has disclosed several shortcomings.

- A consistent and explicit understanding of the purposes of dissemination is lacking.

- Target markets are broadly defined and decision-makers have not been identified with sufficient precision.

- An adequate system for identifying and designing products or information to be disseminated has not been developed.

- Many dissemination methods in use appear unlikely to achieve high impact.

- As now organized, dissemination is not subject to effective direction or accountability.

- The level of dissemination effort is unequal among programs, with a consequent effect on the overall impact of programs.

In the development of a conceptual framework, it was found that:

- The critical element is program purpose, and other elements vary accordingly, such as dissemination purpose, user needs and methods of distribution, among others (as shown in Exhibit IV-2, following).

- By analyzing this framework, three major categories of dissemination can be identified: research and development programs, local innovations and improvements, and formula grant and auxiliary service programs.

- In order to implement dissemination programs in these three categories, operational as well as coordination and support functions must be performed (Exhibit IV-3).

RECOMMENDATIONS

In order to implement the conceptual framework, recommendations are made in regard to the importance of organization for dissemination, approach to organization and management structure for implementation.

1. Dissemination should be given a high priority; positive and productive steps must be taken now to meet the expectations of the Congress and the educational community.

2. These steps should begin with new organizational arrangements, because these offer the best prospects for effective progress while continuing to work toward the resolution of relevant issues.

3. Basic allocations of responsibility should be made as follows:

- NIE should be responsible for the dissemination of new knowledge.

- OE bureaus should be responsible for disseminating information required for program operations.

- Diffusion projects should be managed by OE.

- A coordinating unit should be created to provide technical services, including needs assessment, planning, systems review, and media services.

4. Three organizational patterns are recommended to be considered for implementing this approach.

- The first, a near-term plan, places the coordinating and support functions in the OE Office of Planning while leaving operating functions in the bureaus (Exhibit V-1).

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PROPOSED CONCEPTUAL FRAMEWORK FOR DISSEMINATION IN EDUCATION: OVERVIEW

Program Purpose	Agency Responsible For Implementation	Purpose Of Dissemination
Planning And Conducting Categorical Education Programs	State Departments of Education and categorical divisions	To promote and guide the preparation of state plans
Developing New Knowledge About Education And Learning	NIE Grantees and contractors	To distribute new knowledge that can be applied for the improvement of education
Developing, Demonstrating And Evaluating New Education Methods And Practices	NIE Discretionary programs States Grantees and contractors	To distribute information about exemplary programs and practices to potential adopters
Developing And Implementing Individual Projects To Improve Educational Effectiveness	Local school districts	To promote knowledge and use of promising practices and products
Providing Auxiliary Services And Assistance To Students	Educational institutions and auxiliary organizations	To distribute information on available programs, their operation and improvement

EXHIBIT IV-2

Information Products And Services (Market Needs)	Methods Of Distribution	Direction And Accountability
Regulations, guidelines, forms Priorities, sample plans and project designs Interpretation of requirements Assistance in preparation	Regular means of communication with states Personal contact by Regional Office or specialist staff from Division	Program bureaus
Research reports and syntheses	Regular means used in scientific and professional community Placement in repositories	Centralized groups in NIE to plan and coordinate dissemination
Descriptive packages and catalogs Reports Guidelines on utilization Assistance in interpretation	Regular reporting channels, including publications, conferences, etc. Support for demonstration, observation and replication	Centralized group in Education Division to plan and coordinate distribution
Descriptive packages Assistance in identifying, planning and adopting Validation of suggested projects	Commercial distribution Catalogs Face-to-face "marketing" Support for replication	Bureau and Division dissemination groups
Regulations, guidelines, forms, manuals Interpretation of requirements Counsel on implementation	Regular means of communication with institutions Personal contact by Regional Office or specialists from Division	Program bureaus and Regional Offices

EXHIBIT IV-2 concluded

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
EDUCATION DIVISION

CONCEPTUAL FRAMEWORK FOR DISSEMINATION:
FUNCTIONS TO BE PERFORMED

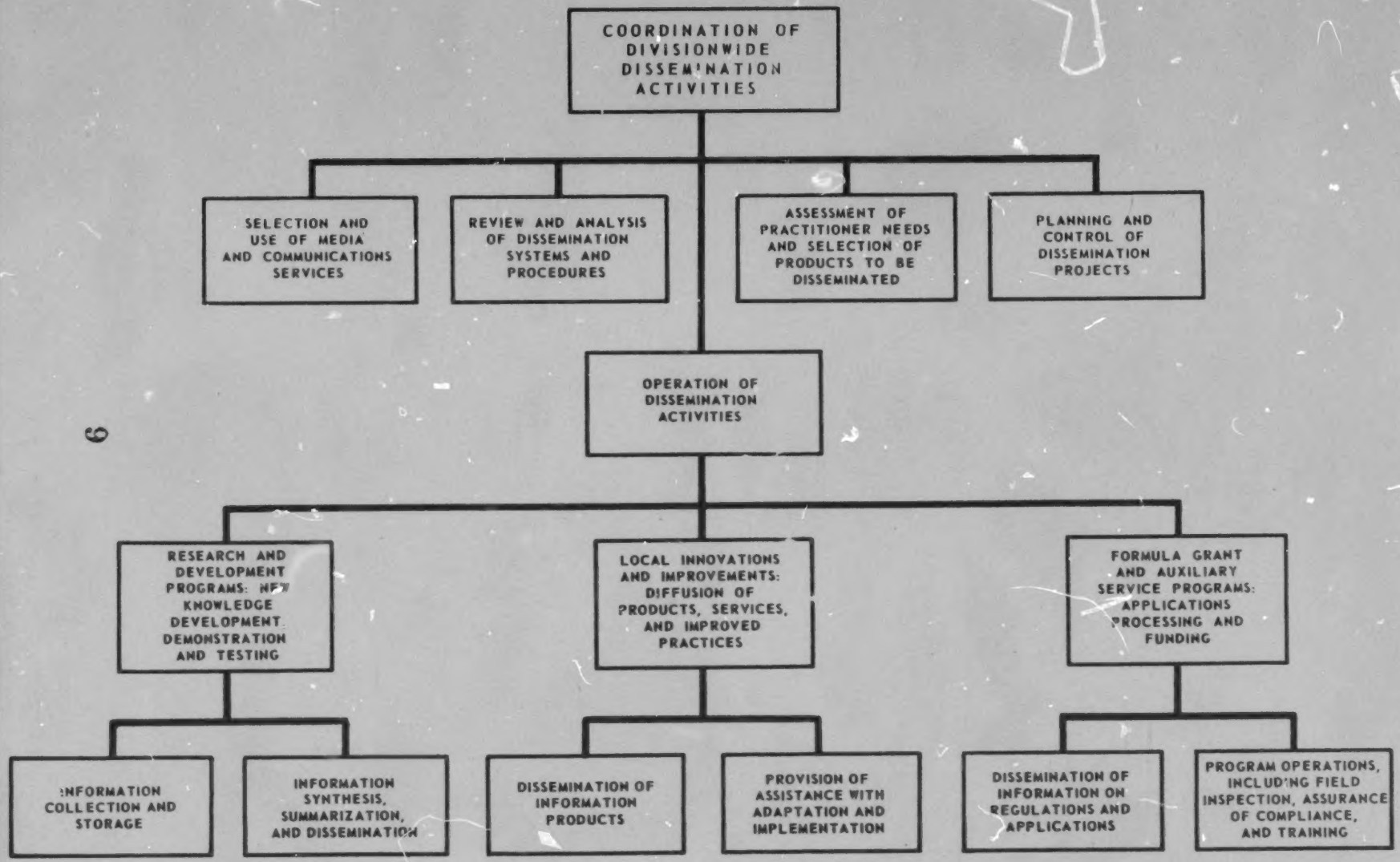
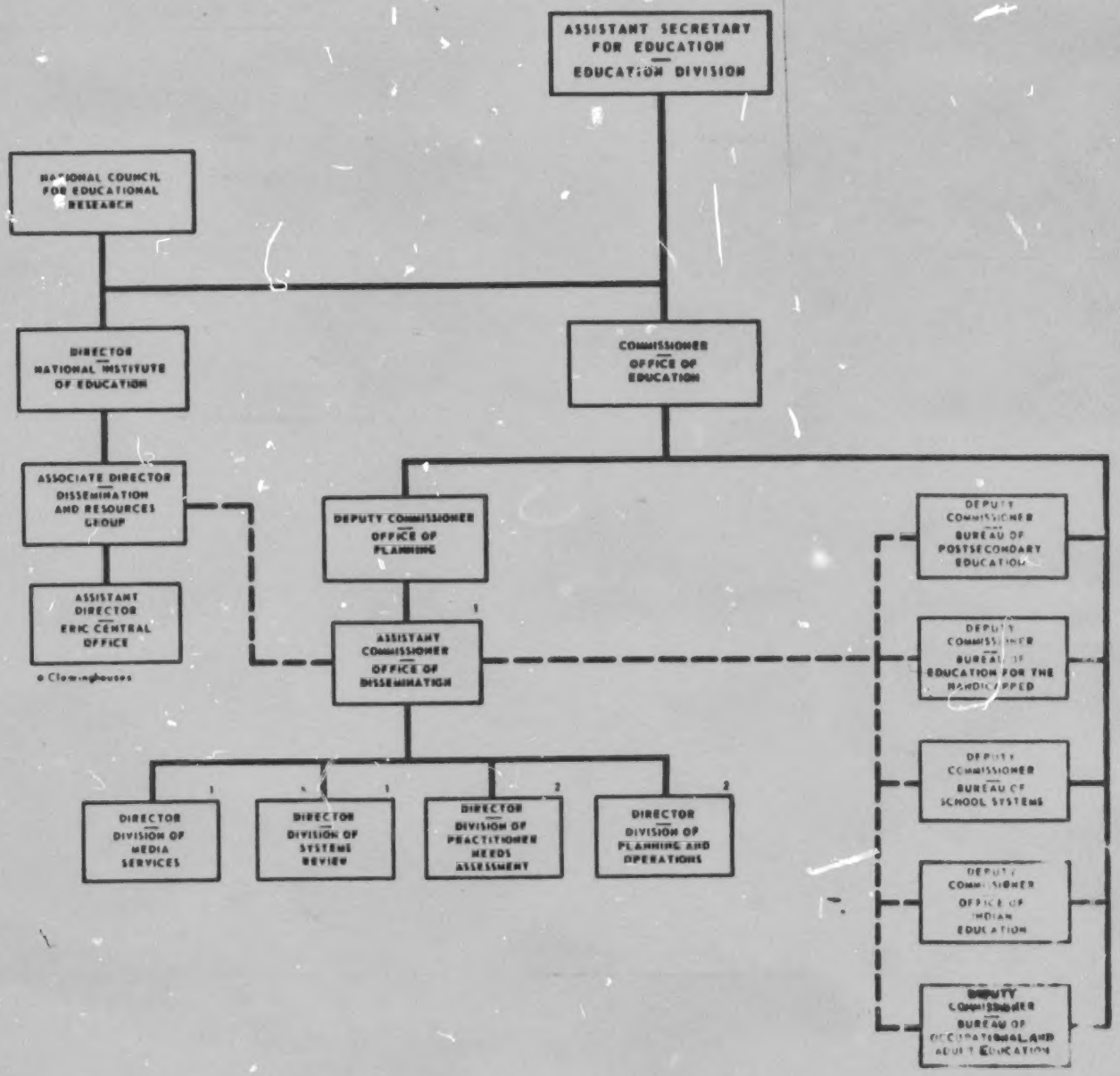

COORDINATION OF DIVISIONWIDE DISSEMINATION ACTIVITIES
SELECTION AND USE OF MEDIA AND COMMUNICATIONS SERVICES
REVIEW AND ANALYSIS OF DISSEMINATION SYSTEMS AND PROCEDURES
ASSESSMENT OF PRACTITIONER NEEDS AND SELECTION OF PRODUCTS TO BE DISSEMINATED
PLANNING AND CONTROL OF DISSEMINATION PROJECTS
OPERATION OF DISSEMINATION ACTIVITIES
RESEARCH AND DEVELOPMENT PROGRAMS: NEW KNOWLEDGE DEVELOPMENT, DEMONSTRATION AND TESTING
LOCAL INNOVATIONS AND IMPROVEMENTS: DIFFUSION OF PRODUCTS, SERVICES, AND IMPROVED PRACTICES
FORMULA GRANT AND AUXILIARY SERVICE PROGRAMS: APPLICATIONS PROCESSING AND FUNDING
INFORMATION COLLECTION AND STORAGE
INFORMATION SYNTHESIS, SUMMARIZATION, AND DISSEMINATION
DISSEMINATION OF INFORMATION PRODUCTS
PROVISION OF ASSISTANCE WITH ADAPTATION AND IMPLEMENTATION
DISSEMINATION OF INFORMATION ON REGULATIONS AND APPLICATIONS
PROGRAM OPERATIONS, INCLUDING FIELD INSPECTION, ASSURANCE OF COMPLIANCE, AND TRAINING

EXHIBIT IV-3

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
EDUCATION DIVISION

PROPOSED ORGANIZATION FOR DISSEMINATION

(NEAR TERM)


ASSISTANT SECRETARY FOR EDUCATION
EDUCATION DIVISION
NATIONAL COUNCIL FOR EDUCATIONAL RESEARCH
DIRECTOR NATIONAL INSTITUTE OF EDUCATION
COMMISSIONER OFFICE OF EDUCATION
ASSOCIATE DIRECTOR DISSEMINATION AND RESOURCES GROUP
ASSISTANT DIRECTOR ERIC CENTRAL OFFICE
o Clearinghouses
DEPUTY COMMISSIONER OFFICE OF PLANNING
ASSISTANT COMMISSIONER OFFICE OF DISSEMINATION
1
DIRECTOR DIVISION OF MEDIA SERVICES
1
DIRECTOR DIVISION OF SYSTEMS REVIEW
1
DIRECTOR DIVISION OF PRACTITIONER NEEDS ASSESSMENT
2
DIRECTOR DIVISION OF PLANNING AND OPERATIONS
2
DEPUTY COMMISSIONER BUREAU OF POSTSECONDARY EDUCATION
DEPUTY COMMISSIONER BUREAU OF EDUCATION FOR THE HANDICAPPED
DEPUTY COMMISSIONER BUREAU OF SCHOOL SYSTEMS
DEPUTY COMMISSIONER OFFICE OF INDIAN EDUCATION
DEPUTY COMMISSIONER BUREAU OF OCCUPATIONAL AND ADULT EDUCATION

Note: Numbers indicate recommended professional staffing.

EXHIBIT IV-4

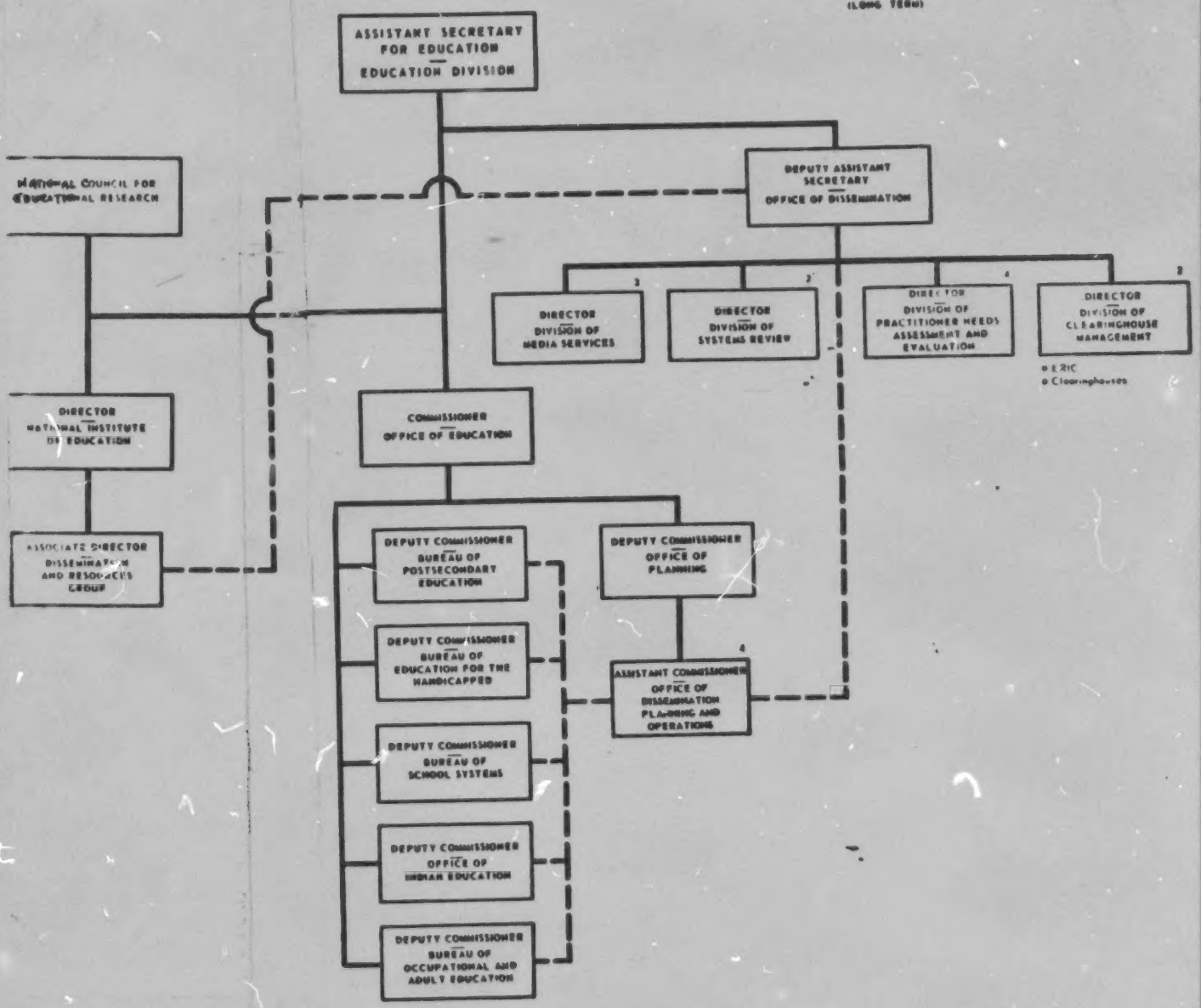
- The second, a longer-term plan, leaves the operating functions in the bureaus, but places the coordinating and support functions in a unit outside of OE and NIE, in a position directly responsible to the Assistant Secretary or similarly placed officer (Exhibit V-2).

- The third, a highly centralized plan, would place all dissemination functions in a separate unit outside of both NIE and OE.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
EDUCATION DIVISION

PROPOSED ORGANIZATION FOR DISSEMINATION

(LONG TERM)



Numbers indicate recommended Professional staffing

EXHIBIT V

DEVELOPING A FRAMEWORK FOR
THE DISSEMINATION OF EDUCATIONAL
AND R&D PRODUCTS

REPORT TO THE DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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I - INTRODUCTION

This chapter briefly describes the objectives and approach to this study and the arrangement of this report.

OBJECTIVES AND APPROACH

This study has been conducted with three major objectives in view.

- The first was to assess the present status of dissemination in the Education Division.
- The second was to develop a conceptual framework that would provide a rationale for the development and implementation of dissemination policy.
- The third objective was to propose an organization plan for the management of dissemination activity within the Division.

The approach was calculated to be as pragmatic as possible. We reviewed what had been said and done and what was being said and done about dissemination in Congress and in the Division. Scores of interviews were conducted with top administrators, program managers and other staff in the Office of Education (OE), the National Institute of Education (NIE), the Office of the Secretary (OS), and the Regional Offices. A wide range of documents were reviewed, from legislation to budgets, and from position papers to reporting forms. Supplementary knowledge was gained from literature reviews on dissemination in the public sector and from marketing organizations in the private sector. The guidance of the project officer was closely followed throughout these efforts. The results of the study stem from an analysis of the information gained by these means. More detail relating to study procedures will be found throughout the text.

ARRANGEMENT OF THIS REPORT

The report is arranged in five chapters and two appendixes, as follows:

I - Introduction (this chapter).

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II - How Dissemination Policy Has Developed - reviews authorizing legislation of dissemination, the problems of development, and the response to it in the Education Division.

III - Description And Assessment Of Present Dissemination Practices - describes dissemination activities in selected programs and makes some conclusions about them.

IV - Developing A Conceptual Framework - describes the approach used, the elements of the framework, and the functions required for implementation.

V - Organization And Implementation Of Proposed Conceptual Framework For Dissemination - recommends an approach to implementing the framework in the near and long term.

Appendix A - A Literature Review For Diffusion Of Educational R&D Products/Processes (prepared by Far West Laboratory for Educational Research and Development).

Appendix B - Review And Summary Of The Literature On Marketing Practices Used By Large Diversified Business Organizations.

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II - HOW DISSEMINATION POLICY HAS DEVELOPED

This chapter traces the development of dissemination policy by examining legislation affecting dissemination and describing problems of policy development within the Education Division. Some conclusions regarding both are also presented.

LEGISLATION AFFECTING DISSEMINATION

This section reviews Federal legislation that designates responsibilities for dissemination in education and identifies major problems affecting the implementation of responsibilities.

Responsibilities For Dissemination

Current legislation recognizes dissemination as an integral part of Federal education policy. With regard to the Federal role in education, the General Education Provisions Act (Sec. 405(a) (2)) declares that it is the policy of the United States to:

> "(i) help to solve or to alleviate the problems of and promote the reform and renewal of American education; (underlined for this report)
>
> "(ii) advance the practice of education, as an art, science, and profession;
>
> "(iii) strengthen the scientific and technological foundations of education; and
>
> "(iv) build an effective educational research and development system."

While the direction of the education system is recognized to be the responsibility of the states and of local governments, the Federal Government has a responsibility to lead in the conduct and support of scientific inquiry. It is through more knowledge about the processes of learning and education that the national goal of equal opportunity for high-quality education can be reached.

In the General Education Provisions Act the National Institute of Education (NIE) is given the duty of carrying out these policies (Sec. 405(y) (1)), which are in effect translated into functions of NIE; it is to "seek to improve education."

The National Council on Educational Research is directed (Sec. 405(c) [illegible] make recommendations for "the improvement of methods of collecting [illegible] disseminating the findings of educational research and of insuring the implementation of educational renewal and reform based upon the findings of educational research." Educational research is intended to include basic and applied research, planning, surveys, evaluations, investigations, experiments, developments, and demonstrations in the field of education. With regard to dissemination, authorization is given to do so through grants, technical assistance, or jointly financed cooperative arrangements (Sec. 405(e) (1)).

In passing the Education Amendment of 1972, the Congress emphasized that "the major responsibilities of dissemination are vested in the Institute" (Conference Report on Education Amendments of 1972, May 22, 1972, p. 205) and that dissemination is a "major responsibility of the National Institute of Education" (op. cit. p. 204). The full extent of the responsibility intended for NIE is conveyed by the language of the Conference Report (92-798, May 22, 1972):

> "The conferees intent is that the whole complex set of dissemination/utilization functions that are desirable in this area are a major responsibility of the National Institute of Education,..." (p. 204)

Components in this complex of functions appear to include (House Report 92-554, October 8, 1971, p. 65):

- Development of educational materials and practices
- Validation as ready for use of innovation based on work of the Institute, supported by it or coming from other sources
- Dissemination into practice.

However, in at least two areas it has been provided that NIE and OE shall share or cooperate in discharging these responsibilities. In the area of bilingual education, NIE is mandated to carry out a program of research, while the testing of research findings and dissemination are assigned jointly to the Director and the Commissioner of the Office of Education. (Bilingual Education Act, Education Amendments of 1974, Sec. 105). For the Gifted and Talented Children program, a program in OE, the Commissioner is directed to provide funds to NIE to carry out a program of "research and related activities" to include "dissemination of information derived therefrom." (Education Amendments of 1974, Title IV, Sec. 404(f)).

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While the major responsibilities for dissemination seem to have been denied to OE, it is nevertheless considered obvious that "OE should have the capability to disseminate information about its own programs and their results." Under Title I of the Elementary and Secondary Education Act (Sec. 151(h)), the Commissioner is directed to develop a system for gathering and disseminating three kinds of information. These are the results of evaluations, exemplary programs and projects that have been identified, and particularly effective elements of programs and projects. Dissemination is to be made to state and local education agencies responsible for design and conduct of programs and projects under Title I, to education professionals, and to the general public. Under Title III, authorization is given to use appropriated funds for disseminating the results of evaluations of plans, programs and projects developed by the states through grants (Sec. 303(c) (3)) or under state plans (Sec. 305(b) (6)). With regard to educational innovations developed by the states under Title IV (which consolidates several elementary and secondary programs), no mention is made of dissemination, but the adoption of proven practices is to be facilitated.

In other acts, the Commissioner's responsibility for dissemination is defined further. Under Title III of the Vocational Education Act of 1968, the Commissioner is directed to "prepare and disseminate to all appropriate state and local agencies and institutions and others concerned with education, complete information on programs of Federal assistance" (Sec. 303(a) (1)). In addition the public shall be informed on Federally supported programs, with this dissemination activity to include teachers, students, the disadvantaged and dropouts (Sec. 303(a) (2)). Also, an annual report is to be disseminated setting forth developments and adaptations of programs administered by the Commissioner. Similar directives to disseminate information about available education programs, and evaluations of their effectiveness, are made with regard to programs for Indian children (Elementary and Secondary Education Act, Amendments of 1972, Sec. 810), the Ethnic Heritage program (op. cit., Title IX, Sec. 902) and Consumer Education (op. cit., Title VIII, Sec. 505).

The Congress has shown a notable interest in clearinghouses as a means of dissemination. For several programs, Congress has authorized the Commissioner to establish national clearinghouses. Under Title VII of the Elementary and Secondary Education Act (noted above), the Commissioner and the Director of NIE are authorized jointly through contracts to "establish and operate a national clearinghouse" to collect, analyze, and disseminate information about bilingual education and related programs. OE has been given the responsibility to establish clearinghouses for several other programs. Under the Adult Education Act (Sec. 309A), the Commissioner is directed through contract to establish a clearinghouse that will disseminate information to the public "together with ways of coordinating adult education programs with manpower programs and other education programs." In programs for gifted

and talented children, a similar authorization for a clearinghouse is made (Education Amendments of 1974, Sec. 404(b)). Also in relation to community schools, a clearinghouse is to be established or designated to "gather and disseminate information received from community education projects." In this program, the responsibility is broadened to include not only information regarding new programs, but "methods to encourage community participation, and ways of coordinating community education." (Education Amendments of 1974, Sec. 405(f) (1)).

While research and the dissemination of research results are preeminently the province of NIE, in certain instances Congress has given similar authorization to OE. Mainly through the use of discretionary funds, OE may carry on "research" in designated subject areas. In the Special Projects Act (Education Amendments of 1974, Sec. 402(a)(1)), the Commissioner is authorized "to experiment with new educational and administrative methods, techniques and practices" and "to meet special or unique educational needs or problems." The earlier Cooperative Research Act, which was replaced by the Special Projects Act, indicates that the dissemination of information and dissemination programs are intended to be a part of this research activity (Cooperative Research Act, Sec. 2(a)). Title I of the Vocational Education Act authorizes the appropriation of funds to pay the cost of evaluation and dissemination activities (understood as research) required by this Title. Under Part C, discretionary funds for research, training programs, and experimental projects are also available for "demonstration and dissemination projects" (Sec. 132 (4)). Part D is presumed to make the same provision, although it is not specifically stated. Part I provides for the dissemination of curriculum materials (Sec. 189(a)).

Legislation has also assigned a dissemination role to the Regional Offices of OE. In regard to responsibilities for program direction and compliance, they "shall serve as centers for the dissemination of information about the activities of the agencies in the Education Division and provide technical assistance to state and local educational agencies, institutions of higher education, and other educational agencies, institutions, and organizations and to individuals and other groups having an interest in Federal education activities." (Education Amendments of 1974, Sec. 503). It is further stipulated that, unless specifically authorized by subsequent legislation, no functions may be delegated to Regional Offices that were not carried out in accordance with regulations effective before June 1, 1973.

Major Problems Resulting From Legislation

Two major problems emerge from the legislation for dissemination.

- The first concerns the meaning of dissemination; the term has not been defined and its use is not standardized.

- The second concerns the overlapping roles assigned to NIE and OE; while differences may have been intended initially, other legislation tends to confuse these roles, and no clear basis for separating them has been provided.

At no time is dissemination defined clearly or operationally. Throughout the General Provisions Act and the separate Acts for education programs, the word appears dozens of times. Its meaning seems to be assumed and to require no definition. As most frequently used, it implies a relatively simple and straightforward distribution of information. Types of information to be disseminated are usually specified and include information about funds available for Federally supported programs, various statistical or other data for planning purposes, innovative or exemplary projects or parts of them, curriculum materials, evaluation results, and knowledge gained from research, developments and demonstrations. Less frequently, the recipients of the information are specified; however, when not specified, State Education Departments, education professionals and the public are generally intended to be the recipients. Almost invariably, it is intended that the results of research and evaluations shall be disseminated.

Upon closer examination the use of the term appears to have different implications and thus is to be understood differently. When used to describe the responsibilities of NIE, it appears as part of a group of related activities that include research, validation and utilization. Reference is made to a complex of "dissemination/utilization" activities. There is a clear implication that dissemination is to be translated into change in education practice; in some uses, dissemination is equated with change. As a responsibility assigned to the Commissioner of OE, dissemination appears not to have the same meaning. At no point is it associated directly with change or utilization, nor is it described as part of a complex of related activities. However, in OE, where research or evaluation occur, dissemination must follow. Thus, OE distributes information about "the results of its programs." The activity as mandated is less complex and less directed toward a goal; and the meaning of dissemination has shifted. A further qualification may be noted: clearinghouses, it is stipulated, should disseminate information. Is this to be done upon their own initiative or only as requested? The answer depends on a definition of dissemination. The term has not been defined or its use standardized by the legislation on the subject. Under these circumstances, some confusion is inevitable. As separate programs are given the opportunity to impose their own interpretations, education policy is fragmented and its results become indeterminable.

From a logical interpretation of education legislation, it may be inferred that the intent of Congress was to assign qualitatively different dissemination roles to NIE and OE. NIE has been delegated the "major responsibilities" for dissemination. In the Congressional formulation, research leads to development, which leads to consumer practice, whether by a linear or an interactive

process. The vehicle, presumably, for moving the process from one stage to the next is disseminated information. NIE has been assigned a mission. Its responsibility extends over the entire process. The legislation indicated the goal and broadly stated its responsibilities. Beyond this it is left to NIE to develop its own conceptual framework for dissemination and to define the activities and methods by which it will accomplish its mission. Barring only the basic prerogatives of the states for education, NIE is free to develop a dissemination program without specifications or limitations. OE's dissemination responsibilities, on the other hand, are limited. OE, as the General Provisions Act declares, is "the primary agency of the Federal Government responsible for the administration of programs of financial assistance to educational agencies, institutions and organizations." (Sec. 403(a)). Thus, OE's responsibility is to those programs which it finances and to no others. It disseminates to the states, with the states in turn being responsible for dissemination within each state. To ensure that it operates within these limitations, the Congress has described those responsibilities with some precision. It specifies, program by program, what should be disseminated to whom, and how funds appropriated for dissemination are to be spent. Only with regard to research does the Commissioner appear to have some flexibility to determine the dissemination program.

Even assuming that this rationalization of Congressional intent is valid, legislation on dissemination has created a situation under which successful performance of assigned responsibilities is seriously inhibited. While the greater amount of material to be disseminated emanates from OE, the comprehensive responsibility for dissemination has been assigned to NIE. Thus, while both agencies have responsibilities, they overlap or appear to do so. A clear and rational basis for distinguishing between their roles has not been defined by the legislation. Furthermore, the legislation has notably omitted to provide for some measurement or review of accomplishment. The result has been a difficult and extended period in which staff of both agencies have been trying to resolve the shortcomings of legislation they are responsible to implement.

PROBLEMS OF POLICY DEVELOPMENT

The problems of developing dissemination policy in the Education Division, as reflected both by internal memorandums and interviews with participants, are discussed in this section. The discussion is divided into four parts:

- Development of the NIE position
- OE position

- ASE (Office of the Assistant Secretary) attempts at resolution

- OS response.

Development Of The NIE Position

The development of policy and a dissemination program in NIE is governed by the belief that it has the full and incontrovertible legislative mandate for dissemination. Although the legislation, as analyzed in the foregoing section, referred to dissemination of the findings of educational research, it added the responsibility of "insuring the implementation of educational renewal and reform" based upon these findings. Educational research was defined broadly to include basic and applied research, surveys, evaluations, investigations, experiments, developments and demonstrations. The House report on the legislation makes it clear that the assignment of responsibility to NIE is equally broad. It appears not to be limited by the range or types of results to be disseminated, by the audience to be reached, or by any indication that the responsibility is to be shared with any other Federal office or bureau. This broad charge, however, has not been accompanied by a proportionate allocation of funds. Efforts at policy and program development in NIE have therefore been concentrated on how to conceive and implement the full range of the responsibility assigned to it within the limits of a stringent budget.

A basic document defining NIE's role in dissemination is the memorandum of July 12, 1973, from Marc S. Tucker to T. K. Glennan, Jr., then the Director of NIE. It recognizes the need for "designing a far-reaching dissemination capability" and equates it with the need "to produce sustained and beneficial changes in educational practice." Attention is therefore directed to the nature of the innovative process. Differing from a suggested view that innovation proceeds in a straight line from basic research to demonstration to consumer, an interactive model is advocated, instead. In this model, it is pointed out, ideas may originate with the consumer while research would then have the subsequent task of determining how and why the idea worked. One important implication of this process is that NIE must work "directly and closely" with consumers, that is, with state and local education agencies. If NIE is to do so, it follows that OE's role would be limited to disseminating information about grants available from OE and assisting prospective grantees by identifying good or alternative practices developed through OE programs. OE, it is suggested, would receive information about research results from NIE and could direct the attention of state and local agencies (who would have received the same information) to the use of this information when formulating grant proposals to OE. Where indicated, OE could also request legislative authority to support the efforts of state and local agencies to take advantage of NIE-developed innovations. Instances in which OE special emphasis programs, such as career education, overlap NIE's role could be treated on a case-by-case basis.

Having established a role for NIE and OE, the remainder of the memorandum discussed the dissemination operations inherited by NIE and undertook to suggest a dissemination strategy to be developed by NIE. Central to this development is an understanding of the process of change in schools and the motivation and incentives necessary to generate and sustain such change. A number of approaches were recommended, prominent among them being the improvement of present documentary storage systems, identification of intermediary organizational units that will help schools utilize research results and sustain reform, and assistance to schools in building a local capacity for research and development. Since these were initial suggestions, it was recognized that, as more was to be learned about the process of change, NIE's strategy would itself be subject to change and refinement.

NIE's approach to dissemination has in fact been elaborated and refined, notably through the Dissemination and Resources Group. With limited resources, it is attempting to play a dual role: (1) to define the Federal role in educational dissemination, and (2) to carry it out. In its approach to both functions, NIE takes a wide view of these responsibilities. It is undertaking to deal with system issues that are broad and complex rather than with narrower questions affecting particular practices or products of Federal programs. It is interested in how change occurs, how decisions are made and what determines adaptation, in any program, in any situation. While continuing to accept the mission to achieve improvement of education, something more than the transfer of educational technology is intended. Its mission is nothing less than to make an impact on how the educational system defines its problems and how it utilizes knowledge to solve them. The goal of dissemination, therefore, is to induce rational decision-making for the solution of educational problems. NIE's interest is in securing solutions to problems rather than securing adoptions of particular practices.

In order to achieve this goal, NIE has adopted a long-range strategy - it is to build the capacity of state departments and local school systems to use information. This approach was considered to be inevitable, since change in the education system is ultimately the responsibility of the state and local agencies, and because the amount of Federal funds available to affect school systems is barely significant by comparison to the amounts contributed by the states and localities. Two related processes are involved: on the one hand, a continuing effort to build and improve the resource base, to collect and collate knowledge on areas of interest (in concrete terms, this means enhancing the capabilities of the present Education Resources Information Centers (ERIC)), and on the other hand, to forge "linking mechanisms" connecting potential users, chiefly the states, with this resource base. A program of dissemination grants to state departments of education has been established to develop their capacity

for gaining access to information resources and to link such information to the program development needs of local education agencies. These include capacity-building grants for developing linkage systems and special-purpose grants (in smaller amounts) for initial planning, training of personnel or the rounding off of systems whose development is already well advanced. A further step is now to be undertaken; that is, to make demonstration grants that will enable several local school districts to focus on those activities that will enable the school districts to implement programs developed through this process.

While the logical justification for the position developed by NIE is apparent, some actual or potential problems may be suggested:

- Up to this time, organization and implementation of the approach is lagging behind the conceptualization.

- The impact of the capacity-building strategy is both indirect and long range; its effectiveness cannot be measured in the near term or assumed in the long term.

- Dependence on linkage to the ERIC system may have been misplaced, since it has tended to exclude the consideration of alternative dissemination approaches.

- Budget limitations appear to have constrained NIE to a dissemination approach cut to the measure of its resources.

- The NIE approach may not, as some suggest, conform to the intent of the Congress.

OE Position

The responsibilities of OE for dissemination have been pointedly restricted. In making dissemination one of the principal responsibilities of NIE, the House Committee on Education and Labor stated "The Committee carefully considered, and rejected, the view of some authorities that the principal responsibility for the dissemination of research should be retained within the Office of Education. The results of this present arrangement have been so meager and disappointing as to warrant no continuation of it." It adds a warning that OE is not authorized to duplicate the responsibility placed in NIE. Nevertheless, as a subsequent Conference Report recognized, OE would have to retain the responsibility for disseminating information about the categorical and formula grant programs administered by it. OE, it is clear from an opinion supplied by the Assistant General Counsel for Education (memorandum from Harry J. Chernock to Charles E. Hansen, May 4, 1973), has no general dissemination responsibility.

Thus, although OE's dissemination role has been restricted by authority and definition of responsibility, it continues to be extensively involved in dissemination. Mandates to disseminate information have been attached to most of its major programs: Title I, Title III (now consolidated), vocational education, adult education, bilingual education, the right-to-read program, and others. In the language of the Congress, information is required to be disseminated "about its own programs and their results." These programs vary in size; that is, in the amount of funds at their disposal for authorized purposes. The smallest of these programs equals or exceeds the appropriation available to NIE; the larger obviously dwarf the capacity of NIE in the area of dissemination. This disparity of scale is compounded by an overlap of responsibility. In Title I, for example, the Commissioner is directed (Sec. 151(h)) to "develop a system for the gathering and dissemination of results of evaluations and for the identification of exemplary programs and projects." Since evaluations are defined as research and exemplary projects are viewed as demonstrations, OE dissemination is hardly distinguishable from the responsibility assigned to NIE.

This disparity and overlap are implicitly recognized in a paper on dissemination (John Evans, July 1973) which finds no satisfactory basis for resolving the contradiction and assigning responsibility. The Evans paper further finds an implication in the intent of Congress that "all dissemination should be disseminating the results of research" and "that in order to qualify for dissemination an exemplary model or method should have come through some kind of research or validation process." The latter eventuality has been provided for in the establishment of the Dissemination Review Panel. It was set up to establish that a program could demonstrate adequate evidence of effectiveness before it was disseminated. Programs identified as possibilities for dissemination were required to submit evaluation-based, quantitative data on pupil performance, whereupon the Panel examined the data and then, upon the vote of a simple majority, made its recommendations to the Commissioner. The Panel considers two basic questions: (1) is there persuasive, objective evidence of improved pupil performance after participation in the program? and (2) can the improvement be clearly attributed to the effects of the program? The Panel validates only the apparent effectiveness of the program; it makes no recommendation regarding dissemination. Its intent and effect are to provide OE with internal control over the quality of programs that may be disseminated. Decisions for dissemination or diffusion (as it is then called) are made by program managers, independent of the Panel.

Two added steps in this process should be noted. The Panel was enlarged to include representation from NIE, so that it now functions as a Joint Dissemination Review Panel. Title III funds have thus been spread to the benefit of the several programs submitting to the Panel, including NIE. Second, within OE, the Bureau of School Systems has been designated as a repository for all validated projects information and asked to design a strategy for the dissemination of these projects.

From this brief review, it is clear that the approach to dissemination in OE is quantitatively different from that of NIE. First, OE is concerned with the dissemination of products, those promising practices that have been supported under OE grants. While respecting the prerogative of state and local agencies to choose, OE has taken the adoption of exemplary approaches as its objective. NIE, on the other hand, is concerned with the solution of educational problems; and its objective is to equip state and local decision-makers to identify and solve their own problems. Thus, OE's project dissemination activities are seeking immediate results through field activities exemplified by the Title III facilitator network and the Identification, Validation, Diffusion process, and soon by the Bureau of School Systems' dissemination design. NIE efforts are structured for longer-range fruition through grants to state departments designed to improve their access to information resources that may be useful for planning innovations. Thus, OE's approach is direct, pragmatic and fragmented over a variety of programs, while NIE's approach is indirect, intellectualized and unified by a theoretical model.

ASE Attempts At Resolution

Periodic attempts made by the Office of the Assistant Secretary for Education (ASE) to deal with questions of OE and NIE roles in dissemination have been less than forceful and decisive. The first attempt followed closely the statement of the NIE position in the Tucker memorandum described above. A memorandum from ASE to the Secretary prepared on July 23, 1973, announced two points of consensus:

- NIE has the major responsibility for the development and dissemination of educational materials and practices.

- OE will maintain a dissemination role with respect to its own programs and serve as one of the several instruments for delivery of information from NIE.

The chief purpose of this memorandum was to assign dissemination responsibilities in a way that would reduce the ambiguity of functions and strengthen the individual missions. In an introduction it was recognized that dissemination could involve a variety of educational ideas, processes, products and materials, and could range from a fully developed method of instruction to a piece of technical assistance or a speech by the Commissioner. Dissemination, it maintains, means instructional change. Therefore, the mere delivery of an educational product is inadequate unless the process of instructional change is a part of the dissemination task. The memorandum then reviews legislative history, responsibility within the Division and the development of NIE's dissemination strategy. The text under these headings is identical with that of the Tucker memorandum referred to above.

Upon the assumption that NIE could best carry out its mandate by dealing directly with state and local agencies rather than through OE, the OE dissemination role would therefore consist of disseminating information about id available from OE, assisting grantees to design programs, identifying and disseminating information about good practices developed under OE grant programs, and disseminating information about alternative practices developed through OE special emphasis programs. The relationships between the two agencies would involve the communication of information about research results and alternative practices by NIE to OE as well as to the states, the use of this information by the states when seeking grants from OE, and the proposal of legislative and policy changes by OE that would enable them and the states to take advantage of NIE innovations.

At the end of the following year (in a memorandum of December 19, 1974), ASE articulated a refined definition of dissemination. It encompassed "those kinds of communication activities including the expenditure of program funds which attempt to facilitate educational improvement by imparting knowledge of or use of alternatives to current practice." Specifically, dissemination was seen to include the following elements:

- Efforts to build, maintain and provide access to a knowledge base about education

- Identification, verification and communication about promising practices

- Support of demonstrations intended to communicate the operation of promising practices and programs

- Technical assistance to encourage adoption and adaptation of improved practices and programs

- Support for development of dissemination capacity in state, local or other education organizations

- Research and evaluation on the processes of dissemination.

Components within the Education Division were asked to assess their respective agencies to determine what was being done and planned for under each of these dissemination elements.

On March 4, 1975, a paper summarizing the OE-NIE dissemination strategy was circulated in the Department with some urgency. The paper stated the Division's dissemination plans and summarized a recent survey of current practices. With regard to NIE and OE responsibilities for dissemination, the paper repeated the content of earlier memorandums described above. It did,

however, call attention to several issues not discussed previously. The four ways by which the legislation specifies that OE can become involved in dissemination are reviewed. Also noted was the issue of NIE's access to dissemination networks established by and operating in OE. The summary of current practice found that "these activities are, from a division perspective, diffuse, uncoordinated, and operating in isolation." It also found that the role of the Regional Offices was based on no common understanding and therefore was uneven in practice. The difficulty in sorting out the respective roles of the two agencies was attributed to the disparity between the size of their programs and the fact that much of NIE's effort had originated in OE; thus their roles were indistinguishable to state and local agencies.

With regard to the overlap of functions as disclosed by the survey of current practices, four strategies for coordination were suggested. Formal relationships would be exemplified by the Joint Dissemination Review Panel and, when its program had been designed, by the new unit in the Bureau of School Systems responsible for designing and implementing dissemination strategies. As a second strategy, it was suggested that ad hoc relationships would develop around specific areas of concern and interests such as the clearinghouse of bilingual education. A third strategy called for the designation of a single lead agency to avoid the pitfalls of overlapping and duplication. In this area it was suggested that NIE should serve as the lead agency in providing coordination and technical assistance to the Title III network. Finally, it was suggested that several anomalies would have to be studied further, preeminent among these being the question of technical assistance.

In response to comments received on the preceding paper, a second position paper was circulated on May 2, 1975. It represented a virtually complete recasting of the earlier paper. It was still concerned with the distinctions between the roles of OE and NIE, but developed the case differently. Rather than limiting its consideration to any assignment of roles and upon an interpretation of the statutes, as was the case with all the earlier statements, it begins by noting the confusion in the statutes. It then presents four propositions that underlie Division thinking about dissemination. The first observes that one goal of a dissemination strategy is to produce knowledge and develop systems to foster its use. The second finds that all parts of the Division produce material to be disseminated and adds the assumption that all will continue to do so. Third, it is assumed OE programs will continue to maintain established relationships with state and local officials and respond to their inquiries. Fourth, it is inferred from the language of the Conference Report on the Education Amendments of 1972 that NIE's lead role is to develop a system for fostering the utilization of knowledge; it recognizes, however, that NIE is only beginning to move toward a better understanding of a dissemination system. Following these observations, three separate goals are stated:

- To produce or collect information to be disseminated

- To communicate such information to improve the management of Federally supported programs

- To develop the capacity within the education community to disseminate and utilize knowledge and information.

The balance of the paper describes agency roles and responsibilities in relation to each of these goals, and thus purports to resolve the broad issues. As described, these roles are similar to those assigned in earlier memorandums and papers.

OS Response To Policy Development

OS response (May 13, 1975) was highly critical of the Division's formulation of a dissemination strategy. The Division was criticized overall for the lack of a conceptual framework: "what we are trying to do for whom and why." Specific inadequacies were noted, including the absence of a rationale for identifying products to be disseminated; the failure to identify market segments and their needs; the failure to identify key decision-makers responsible for adopting new methods; and the lack of an assessment of costs and benefits of the strategy. Criticism was also leveled at the statement of goals, which were found to be functions rather than goals. Questions were also raised about gaps in the assignment of agency roles and responsibility. Overall it was emphasized that the assignment of roles without a conceptual framework was not feasible.

CONCLUSIONS

Conclusions more negative than positive emerge from the review of legislation and policy development in this chapter and from the reviews of diffusion and marketing literature which appear in Appendixes A and B. Despite the concern and effort that have been evident since the passage of the General Education Provisions Act of 1972, the results to date must be judged to have been relatively ineffectual. Several elements of failure and the reasons for them can be identified.

- First and foremost, Congress has imposed a set of directives that are confusing and contradictory - confusing because what is meant by dissemination and what it is to accomplish are never clearly or consistently defined, and contradictory because major responsibility is assigned to the lesser organization while the larger organization is permitted to exercise similar responsibility.

- The result for NIE has been a strategy of comprehensive coverage with limited resources and, in the attempt, to raise questions as to how and when it can attain the kind of results that may have been intended by the Congress.

- For OE, the approach to developing dissemination policy appears to have neglected the opportunities that may exist for an agency-wide dissemination strategy and organization, and to have permitted instead bureau and division initiatives while arguing for legislative remedy.

- ASE, which might have functioned as an arbiter, has been unable satisfactorily to resolve the dilemmas of dissemination organization and has thus failed to fulfill what might have been its organizational role.

While major difficulties of dissemination policy and implementation can be attributed to defects of legislation and organization, these factors are not solely to blame. Significant, too, has been the tendency to place heavy reliance on theoretical studies for the development of policies and programs. As the critical review of educational diffusion literature shows (Appendix A), a substantial body of literature has been developed, and in large measure it has occurred under Federal support. It also shows that a level of theoretical sophistication has been reached that outdistances the knowledge gained through practice. The relative sophistication of the literature suggests that Federal policy-makers and planners have indeed been more willing (or perhaps less fearful) to invest in studies than in pragmatic experience. As yet, these studies tend to succeed better at identifying the obstacles to effective diffusion than at defining the means of avoiding the "cycle of frustration and failure." On the other hand, the review of marketing practices used by large diversified business organizations (Appendix B) indicates that in the private sector similar problems have been solved; and that the solutions have been developed through experience which afterward has been rationalized and described in the literature.

III - DESCRIPTION AND ASSESSMENT OF PRESENT DISSEMINATION PRACTICES

Following an introductory section that summarizes the purposes and approach of the chapter, the dissemination practices of selected programs are described and the strengths and weaknesses of these practices are then assessed.

PURPOSES AND APPROACH

In order to develop a conceptual framework as well as a suggested plan for implementation and management of educational dissemination, concrete knowledge is required concerning the characteristics and range of dissemination now being conducted in the Education Division. The first purpose of this chapter is therefore to document current dissemination practices. Since documentation of all practices of all programs is not feasible within the scope of this study, this review is limited to a selection of different types of programs. With the advice of the project officer, the programs to be reviewed are:

- TRIO programs
- Compensatory Education program (Title I)
- Vocational Education programs
- NIE Basic Skills program
- Handicapped Education programs
- Guaranteed Student Loan program.

The information presented was developed through interviews with program directors and staff, supplemented by a review of budgets, reports and other printed materials supplied by them. Interviews as well as review of printed materials sought to develop an understanding of program characteristics and activities rather than exhaustive knowledge and command of detail. Persons interviewed were asked to respond according to their understandings of the meaning of dissemination in order to reflect present practices rather than deductive definitions of what they should be doing.

The second purpose of this chapter is to assess the strengths and weaknesses of dissemination activities in the selected programs. These evaluations and attempts to generalize about them are based on the information presented in the first part of the chapter. The assessment thus considers the differences between programs and what can be learned from comparisons, how these programs have approached the solution of problems of concept and management, and the extent to which they appear to have succeeded. The measurement of the outcome of these efforts has not been included within the scope of work.

A - DESCRIPTION OF DISSEMINATION PRACTICES OF SELECTED PROGRAMS

This section describes and discusses the present dissemination practices of six representative programs.

TRIO PROGRAMS

TRIO refers to three related programs: Talent Search, Upward Bound and Student Special Services. These three and two others - Educational Opportunity Centers and a series of demonstration programs - make up a group of special programs for students from disadvantaged backgrounds. Their purpose is "to assist in making available the benefits of postsecondary education to qualified students in institutions of higher education." (Higher Education Act of 1965; Title IV, Sec. 401(a), as amended). These programs are now operating under Public Law 92-318, enacted June 23, 1972. The purpose of each of these programs is:

- Talent Search - to identify qualified youth who are financially or culturally disadvantaged, yet have potential for postsecondary educational training; to motivate them to complete secondary school; and to help them gain admission to postsecondary education

- Upward Bound - to assist the same youths over an extended period of time in acquiring the skills and motivation for succeeding in education beyond high school

- Special services for disadvantaged students (Student Special Services) - to provide remedial training and other support services through grantee institutions to enable these students to pursue postsecondary education in these institutions

- Educational Opportunity Centers - funded to coordinate applicable programs and services in low income areas and resources and staff efforts of postsecondary institutions offering admittance to students from these areas

- Demonstration programs - funded in limited numbers to reach neglected groups or to supplement existing programs.

The Division of Student Support and Special Programs in the Bureau of Postsecondary Education is responsible for administering these programs. However, when queried, it was pointed out that its responsibilities for dissemination were limited. It distributes application forms, regulations and other information for the purpose of providing information to potential program grant applicants. (Distribution is made to an extensive mailing list of institutions of higher education and combinations of such institutions, public and private nonprofit agencies and organizations; included are about 4,000 colleges, community colleges, junior colleges and vocational schools.) Other functions have been assigned by the Commissioner of the Office of Education to the Regional Offices; they include evaluating applications, awarding grants, monitoring programs and offering technical assistance to them. The division does not disseminate innovative or successful program techniques. It does not have funds for this purpose, and there is no legislative requirement that it should do so. To the extent that it occurs, dissemination of information about existing programs takes place through regional meetings held by the Regional Offices for project directors and through the publication of occasional papers. Additional dissemination also occurs informally through communication between project directors.

COMPENSATORY EDUCATION PROGRAM

The Compensatory Education program is concerned with meeting the special educational needs of educationally deprived children. Under Title I of the Elementary and Secondary Education Act of 1965 and the Educational Amendments of 1974 (Public Law 93-380), the Congress's purpose is "to provide financial assistance to educational agencies serving areas with concentrations of children from low income families" in order to improve their educational programs by various means. Title I is the major effort of the Federal Government addressed to the problems of low educational achievement stemming from low income and associated deprivation. With funding now approximating $2 billion for the current fiscal year, programs have been or are being funded in up to 90 per cent of local school districts in the United States, with the majority of programs directed toward reading improvement and secondarily toward mathematics.

The Congress has also addressed the matter of program evaluation (Title I, Sec. 151) requiring independent evaluations describing the impact of programs, the development of standards, techniques and models for evaluations, and the technical assistance needed for carrying them out. Moreover, it has required under Section 151(h) that:

> "The Commissioner shall also develop a system for the gathering and dissemination of results of evaluations and for the identification of exemplary programs and projects, or of particularly effective elements of programs and projects, and for the dissemination of information concerning such programs and projects of such elements thereof to state and local educational agencies responsible for the design and conduct of programs and projects under this Title, and to the education profession and the general public."

Finally, Section 151(c) authorizes the expenditure of funds up to one-half of 1 per cent of the total amount appropriated to carry out these provisions.

The agency administering this program is the Division of Education for the Disadvantaged in the Bureau of School Systems. As do other program divisions in the Office of Education, this division has a dual role. Its first responsibility is stewardship (that is, monitoring state activities to ensure compliance with Title I regulations). Second, it attempts to exercise leadership by informing and advising the states on better ways of conducting its programs. The latter responsibility, it is stated, receives substantially less attention than the former. Its dissemination responsibilities fall into both categories. Dissemination is defined by the division as the transmittal of information in order to establish understanding among the various target audiences. The definition is broad because of the required organization and activity under Title I. The regulations refer to dissemination at three major points in the Title I developmental process: program planning, program implementation, and after the evaluation is completed. State education agencies (SEAs) have the responsibility for administering this developmental process through Title I coordinators funded under Title I in each state department. Local education agencies (LEAs) prepare applications and conduct programs with the participation of parent groups. Target audiences for dissemination therefore include SEA, LEA, Title I project staff and parents as well as the general public.

Dissemination activities of the division are thus directed toward providing information to assist and support each of the target groups in discharging their responsibilities under the Act and regulations. The materials disseminated include:

- Federal regulations and other materials for ensuring compliance for SEAs

- General descriptions, questions and answers and similar materials on Title I and how it works for various groups

- Guidelines and program support packages on needs assessments, performance objectives, parental involvement, dissemination and related matters for training of LEAs

- Case studies of exemplary projects for SEAs and LEAs.

Since dissemination plans in each state are the responsibility of the SEA, the division has no direct communication with LEAs or other groups. (However, through PIPS, exemplary projects are identified and packaged in direct contact with LEAs.) For the most part, it distributes materials through the state Title I coordinator who in turn disseminates to LEAs by mail and through workshops or conferences held for local Title I directors and other school personnel. The only direct contact of the division, except as it may occur through participation in state or regional conferences, is through the site visits of a program review team made annually to each state. Where project descriptions, support packages and manuals and handbooks are concerned, the division deposits copies of these materials in ERIC. In addition, the division maintains a resource center from which capsule descriptions of programs are available to inquirers. Published project materials and general information on Title I are also available from the Government Printing Office.

Each year the states are asked to identify exemplary programs. To the extent they do so, these programs are then screened by the division, and those which are believed to be sufficiently qualified are then submitted to the Joint Dissemination Review Panel for validation. Information about validated programs is then published by the division and distributed to the states. Finally, as required by the regulations (Title 45, Part 116, Sec. 116.25) evaluations of Title I programs are reported to the division by each state, and this material is then made available for future project planning. (An evaluation function is also carried out by the Office of Planning and Budget, which also distributes its results.)

VOCATIONAL EDUCATION PROGRAMS

Vocational Education programs, as described in the Vocational Education Act of 1963 and in the Vocational Education Amendments of 1968, have the declared purpose of making available high-quality vocational training or retraining that is practical in the light of employment opportunities and suited to the needs of persons of all ages. (Title I, Part A, Sec. 10). As with other education programs, it is Federal policy to accomplish these purposes through grants

to the states. Each state is required to develop a state plan that will provide programs for persons of different age groups, levels of education, and handicapping conditions, and to provide vocational guidance and counseling for them, and ancillary services to ensure the quality and effectiveness of the programs (Title I, Part B).

In addition to the funds provided the state programs, however, funds are also made available for research and training in vocational education (Part C), for exemplary programs and projects (Part D), and for curriculum development (Part I). Funds for research programs are intended to develop practical methods for improving management and training and particularly to find more effective methods for serving the needs of disadvantaged youths. Exemplary programs are intended "to stimulate through Federal financial support, new ways to create a bridge between school and earning a living for young people." (Part D, Sec. 141). Curriculum development, a smaller program than the other two, is directed toward the improvement of teaching materials and standards. With regard to all three, discretionary funds are made available to the Commissioner to exercise a Federal initiative to achieve stated purposes rather than depend solely upon state plans.

Responsibility for administering funds for state vocational education programs is placed in the Division of Vocational and Technical Education of the Bureau of Occupational and Adult Education. Operating primarily as a granting agency, this division reviews and processes state plans, offers technical assistance for their preparation and implementation, and compiles data on their operations.

Technical assistance is provided by a staff in various areas of vocational specialization such as agriculture, trade and industry and health. Its dissemination functions are limited largely to furnishing information for the development of state plans. It distributes state plan guides, reporting forms and program memorandums of various policy decisions to state directors, advisory councils, and universities. It holds several meetings each year to afford some leadership in developing state plans, explaining major thrusts and priorities and interpreting new regulations and requirements. These include the Annual Conference of the American Vocational Association, a national state directors' leadership conference and meetings with the vocational staff of the Regional Offices. It also distributes special publications on the training needs of the handicapped, for example.

The major responsibility for direct contact with the state is carried out by the Assistant Regional Commissioner and program staff for vocational education in each of the Regional Offices. They supply ongoing technical assistance and serve as a resource to state directors in the preparation of state plans, in approving them and in monitoring their implementation. Regional

Offices submit monthly reports on problems and new developments to the division and participate in a telephone conference each week devoted to a particular subject. Publications summarizing fiscal, statistical and program data are also distributed through the Regional Offices. Field contacts of the Regional Offices are thus divided between securing compliance with Federal regulations and disseminating information about new or exemplary practices, with the latter receiving far less attention than they deserve.

The Division of Research and Demonstration is responsible for administering the discretionary funds under Parts C and D of the Act. With these it functions as a granting agency to promote and support applied and developmental studies in each of the states. Thus, as with other grant programs, it advertises the availability of grants and contracts, distributes information for applicants to state agencies and to universities, and processes and approves applications.

Currently the developmental programs being supported are emphasizing the more effective management of the Vocational Education program. Management information systems are being designed and developed or tested in several states, however, the greatest thrust in recent years has been in the development of career education programs for the purpose of which it maintains liaison with developments in NIE. Dissemination of these programs for the purpose of encouraging diffusion and further innovation took several forms, some of them relatively informal. Program reports and materials were deposited in the ERIC system. Directors of exemplary projects have been brought together to exchange ideas in national meetings. Through the Center for Vocational Education at Ohio State University, abstracts of instructional and research materials are made available on a periodic basis. Personnel from both the division and the Regional Offices making site visits have observed promising developments and encouraged program directors to visit or write each other. Research coordinating units supported by the states have further encouraged local innovations. State products, it is believed, are more extensively disseminated than those which are Federally funded. Division staff are occupied almost entirely in processing project grant awards and are thus precluded from a systematic effort to review products, determine their application and disseminate them.

NIE BASIC SKILLS PROGRAM

Basic Skills is one of NIE's major programs*. It is intended "to discover and develop means by which all individuals can acquire those skills necessary

*The discussion in this section is limited to this program as an example of the dissemination of research results; an assessment of all NIE dissemination activities is not intended.

for effective participation in society." Its initial efforts are being focused primarily on reading skills, and secondarily upon mathematics. Following the Congress's declaration of purpose in the General Education Provisions Act (Sec. 405, enacted in 1972), this program is directed toward scientific inquiry into the educational process, seeking to learn more about how learning and education actually happen.

In the Basic Skills program, three separate divisions are directing their efforts toward advancing the state of the art. The learning division is carrying out for the first time systematic planning for research and development on reading skills and comprehension. Through ten panel conferences of scientists and practitioners, basic problems have been identified, and recommendations for research and development made in areas such as how conceptual and cultural factors contribute to reading comprehension, the role of attention and motivation, and the essential skills required in reading. Through a project management group it is administering contracts to regional laboratories, centers and others to explore priorities identified in these areas. Similarly, a teaching division is dealing with the problems of basic skills, and with the means whereby teacher intervention and competencies can contribute to and improve the acquisition of basic skills. A third division is concerned in a like way with measurements and methodology, including such questions as the measurement of teacher competencies and test validity across different student population subgroups. The budget for these activities is between $12 million and $14 million per year.

Since the program is in its initial stage, dissemination by the planning group is not far advanced. Its purpose is to disseminate ideas resulting from research and development. Given the questions to which answers are being sought, the outcome is information that can contribute to the understanding of scientists contemplating further research or of practitioners undertaking the development of specific projects. How to reach the latter is a special concern, and a series of research syntheses on problems and topics of teacher interest is being undertaken. Otherwise research results are being distributed through conventional channels: ERIC, the Government Printing Office, scientific conventions, professional associations, and mailing lists of individuals known to have an interest in this type of material.

HANDICAPPED EDUCATION PROGRAMS

The scope of the Federal role in handicapped education can be summarized as follows:

- To act as a catalyst in bringing about changes in the field by initiating demonstration and model programs and by encouraging the adoption of innovative techniques and practices

- To use limited Federal financial and manpower resources to produce significant changes in the effectiveness of larger direct programs conducted by state and local education agencies

- To conduct research on curriculum, early childhood education, career education, personnel development, and the education of the severely handicapped

- To carry out such demonstration projects and roles as: serving the unserved child, providing models for deinstitutionalizing demonstration centers and diagnostic services, modifying facilities to enable participation of the handicapped and conducting leadership training institutes

- To adapt instructional materials developed for the deaf for use by children with other handicaps

- To develop new equipment to educate and offer cultural contact to persons in all handicapped areas.

The Education of the Handicapped Act authorizes programs in four primary areas:

- Assistance to states (Part B, Sec. 611 and Part C, Sec. 621 and 622)

- Innovation and development (Part C, Sec. 623, Part G, Part E)

- Media and resource services (Part F and Part C, Sec. 621)

- Special education manpower development (Part D, Sec. 631, 632, and 634).

These programs vary in their emphasis on and approach to dissemination of program results. In the area of assistance to the states, dissemination is an explicit commitment for the Severely Handicapped projects. This program supports comprehensive, statewide demonstration projects focused on providing appropriate and required services for severely handicapped children. To further the impact of this program, the Bureau plans to validate and disseminate the results of these demonstration projects so that SEAs and LEAs can begin to implement the findings.

The innovation and development program contains three components with significant dissemination activities. These are:

- Early childhood education projects

- Specific learning disabilities projects

- Research and demonstration.

The program for the state capacity-building in handicapped preschool education supports demonstration and outreach projects in the form of three-year model demonstrations, which include dissemination of program information to professionals and to the general public. These demonstration models will then be validated, and projects with proven success and commitments to continued funding by SEAs, LEAs or other agencies may apply for outreach support to assist other agencies in replicating the project model or major components of it. Such exemplary projects then provide technical assistance to other agencies and programs. While outreach grants are normally of one year's duration, they may be extended if demand for assistance from a project is great.

A Bureau of Education for the Handicapped review panel was used to select the exemplary projects, the Joint Dissemination Review Panel being bypassed until recently, since most projects were not set up to collect the data required for validation. Data on eight exemplary projects were packaged for the Joint Dissemination Review Panel. The Bureau now intends to publish information packages on all validated projects for distribution to approximately 4,000 organizations involved in handicapped education. To follow this distribution, and to enhance its impact, the Bureau plans a replication strategy that will begin with the funding of 10 replication projects at approximately $100,000 per project, and will then expand to approximately 50 replication projects the following year.

A Technical Assistance Development System (TADS) will be added to the demonstration program. Based in North Carolina, TADS will assist Federally funded early childhood education demonstration projects (other than outreach projects) by distributing newsletters and syntheses of practices and procedures and by developing technical assistance manuals for early childhood education organizations. TADS is separate from the demonstration projects because current legislative restrictions will not allow dissemination activities other than outreach conducted by demonstration projects. A further obstacle to expanded dissemination activities is the lack of a market analysis which would describe the nature of buyers, the characteristics of users in the field of early childhood education, their finances, the availability of equipment, media channels preferred by these users, and their present consumer behavior.

The second innovation and development program is in the area of specific learning disabilities. The purpose of this program is to stimulate SEAs and LEAs to provide comprehensive services, including diagnosis, prescription and education, for all children with specific learning disabilities. Under Part G of the Education of the Handicapped Act, this program supports model demonstration projects, technical assistance, research, training activities, early screening

to identify children with specific learning disabilities, and the dissemination of information about the Bureau's learning disabilities program. Given the relatively short (two-year) duration of most of these contracts, dissemination is usually undertaken on the basis of a project's face validity. As a result, the 39 projects now being funded can claim more than 150 replications. These projects work through SEAs and are oriented toward creating products for packaging and distribution. While dissemination activities in this area now bypass the Joint Dissemination Review Panel, this program might in the future provide third-year funding for projects with potential for validation by the Joint Dissemination Review Panel. Occasionally some products developed by these projects are picked up by commercial developers. In addition, there is limited use of journals to promote diffusion and adoption.

The research and demonstration program authorized by Part B of the Education of the Handicapped Act is designed to improve the effectiveness and efficiency of the educational system for the handicapped by:

- Supporting development and validation of new service models and techniques
- Packaging information in the appropriate form
- Systematically ensuring that this information is placed in the appropriate hands
- Integrating quality research and development products into the educational delivery system.

By the close of the 1974 fiscal year, projects supported under this program had resulted in the distribution of over 500 Handicapped Education products through ERIC and at least 500 publications in professional journals. For example, the Optacon was developed and tested under this program. Development on the Optacon is continuing to lower its cost, increase its portability, and improve reading efficiency for the user.

The media services and captioned films programs authorized under Part F of the Education of the Handicapped Act serve the following purposes:

- To produce and distribute educational media for the handicapped
- To train persons in the use of media for the handicapped
- To carry out research on the use of media for the handicapped.

The Bureau plans to develop a marketing and implementation strategy to help assure that production models of educational technology products such as Optacon are widely distributed among handicapped consumers. Since a number of film, curriculum, television and other educational technology products are now reaching final stages of development, there is a need to promote their availability and potential and to increase their accessibility at the local level. In addition, many devices and materials need to be tested further and developed from prototypes into rationally designed production models. The purpose of the marketing and implementation strategy is to guide the selection of promising products for further development and promotion.

The marketing and implementation strategy now being developed by the Bureau is designed to place useful products into the hands of the handicapped persons for whom such products were developed. Many products have been developed by the Bureau over the years, often without any practical or realistic market-oriented planning and development guidelines. In terms of market potential, these products span a wide range of marketability. On the one hand, a product such as Project Life, which underwent five years of research, development and testing, was successfully marketed by General Electric and has been on the market for nearly five years. GE purchased the copyright to the product, with an agreement for royalty payments to the Federal Government. On the other hand, the Optacon, also developed and tested by the Bureau's research unit, remains a relatively high-cost product with limited market. To deal with this wide range of products, the Bureau has developed a three-tiered marketing strategy. Products with commercial potential will be put out for bid in the commercial sector. Such products would be characterized by substantial sales potential, reasonable manufacturing costs, competitive pricing structures, adaptability to existing marketing structures, validity, durability and profitability. A second level of marketing potential would include products meeting some but not all of the above criteria. These products would be marketed jointly by the Bureau and the commercial sector through shared risk contracts, a contractual agreement yet to be defined.

The final category of products would include those not meeting the criteria for either the commercial sector or shared risk potential. These would be termed "thin market" items and would be marketed or promoted in spite of their lack of commercial appeal when the following criteria were met:

- Consistency with Bureau priorities
- Specificity of need
- Exclusivity of application
- Validity

- Cost-effectiveness

- Adaptability to existing delivery systems.

For fiscal 1976, the Bureau plans to undertake the following steps:

- Assemble and review existing products and materials

- Classify these items as commercial, shared risk, or thin market

- Create a panel of special educators and marketing personnel to set marketing priorities among products

- Contract with marketing experts to prepare marketing plans for selected priority products.

The Bureau might then create a marketing unit within the Captioned Films and Telecommunications Branch to undertake implementation of approved marketing strategies. This unit might begin with a staff of two or three, to include a marketing manager and one or more product managers.

The Regional Resource Centers, authorized under Part C of the Education of the Handicapped Act, are designed to promote development and application of exemplary appraisal and programming practices. These purposes are to be achieved through demonstrations, dissemination, training, financial assistance, staff expertise and other services.

The Area Learning Resources Center and the National Center on Educational Media and Materials are designed to enter tested products and materials into educational systems for distribution to intended users. The Area Learning Resources Centers, authorized under Part F of the Education of the Handicapped Act, are also designed to improve awareness of products and services developed with Federal support and to disseminate information on usable materials, regardless of whether these were developed with Federal support. Progress in this area has been hindered by the lack of needs assessment of materials for the handicapped, the determination of which may require up to three to five years, particularly in thin market areas.

A part of the Learning Resources Center's network will be the National Instructional Materials Information System (NIMIS), a computerized information base covering 9,000 items of validated materials. However, the validation procedures used for NIMIS materials are not linked with the work of the Joint Dissemination Review Panel. It is intended that, over time, ratings will be developed for NIMIS material based on the experience of actual users.

GUARANTEED STUDENT LOAN PROGRAM

The Guaranteed Student Loan Program (GSLP), initiated in 1965, was an outgrowth of similar programs established in 17 states between 1957 and 1965. The authorizing acts for the GSLP were the Higher Education Act of 1965 (Title IV, Part B) and the National Vocational Student Loan Insurance Act of 1965.

According to the Higher Education Act of 1965, as amended, the objectives of the GSLP are:

- To encourage states and nonprofit private institutions and organizations to establish adequate loan insurance programs for students in eligible institutions
- To provide a Federal program of student loan insurance for students or lenders who do not have reasonable access to a state or private nonprofit program of student loan insurance
- To pay a portion of the interest on loans to qualified students
- To reinsure a portion of loans guaranteed by state and private agencies.

Program scope and complexity are indicated by the following figures on program elements, as of July 1975:

Program Element	Number
Students With Loans	5,100,000
Eligible Schools	8,756
Eligible Lenders	18,945
State Guarantee Agencies	26

Dissemination is defined by the Office of Guaranteed Student Loans (OGSL) and the ten DHEW Regional Offices to include the following responsibilities:

- Distribute program regulations, guidelines and manuals to lenders, schools, and guarantee agencies
- Conduct audits of school operations
- Hold state and regional conferences and workshops
- Provide pre-claims assistance to insured lenders.

The purposes of these activities are as follows:

- Promote participation by lenders, schools, and students
- Ensure compliance with program regulations
- Improve program operations (for example, reduce default claims).

Dissemination activities are conducted jointly by the OGSL and the Regional Offices, with OGSL developing and distributing program guidelines and manuals for participants, and the Regional Offices monitoring compliance and providing pre-claims assistance to insured lenders.

The approach taken by the GSLP consists of holding regional conferences and workshops for lenders and schools, packaging and distributing materials on program regulations and guidelines, monitoring compliance with regulations and providing technical assistance to schools and lenders. At present these activities constitute the GSLP's full range of dissemination efforts, as described above.

B - ASSESSMENT OF PRESENT DISSEMINATION PRACTICES

This section presents an assessment of the Division's overall approach to dissemination. This assessment is based on the practices of six representative programs described in the first part of this chapter. It is recognized that the assessment might differ in particulars had a different or broader group of practices been examined. The assessment focuses on the following parameters:

- Definition of dissemination
- Purpose of dissemination
- Target markets
- Products and services to be disseminated
- Approach and methods used
- Organization of responsibility for dissemination
- Level of effort.

DEFINITION OF DISSEMINATION

There Appears To Be A Lack Of A Consistent Understanding Of The Definition Of Dissemination Throughout The Division

There is a wide range of definitions of dissemination in use among the programs analyzed. Dissemination is variously defined to comprise some or all of the following activities:

- Distribution of program applications, instructions and regulations
- Distribution of results of project evaluations
- Distribution of descriptions of projects, outcomes, and implementation approaches
- Distribution of descriptions of research and development outcomes and syntheses
- Distribution of catalogs and packages on exemplary practices

- Provision of technical assistance with applications, project design, state plans, or implementation of exemplary practices

- Marketing of program products to ensure availability and use by agencies or persons needing them.

These differing definitions extend along a continuum from activities designed simply to promote awareness of the program to activities designed to secure adoption of program products and services.

The problem with this situation is that there is no uniformly accepted, Divisionwide operational definition of what constitutes dissemination. Instead, the definitions used are implicitly specific to individual programs.

In the absence of a clear, uniformly accepted, Divisionwide definition, the result is a great deal of discussion about dissemination that proves fruitless because different programs are talking about different things. What is and should be disseminated by whom, to whom, how, and to what extent cannot be determined without a common understanding. Some of the problems engendered by this lack of definitional agreement were recounted in Chapter II. In addition, the lack of a uniform definition makes it more difficult to gain agreement on who is or should be undertaking specific activities. The definitions in use appear to reflect the individual thinking and resource limitations of program staffs, rather than flow logically from the Division's overall missions.

PURPOSE OF DISSEMINATION

A Consistent And Explicit Understanding Of The Purposes Of Dissemination Also Is Lacking In The Division

The dissemination activities of different programs are characterized by a wide range of different purposes; orientations range from passive to active. Among the purposes of dissemination noted among the programs reviewed were to:

- Promote program participation

- Assist in applications for grants or contracts

- Ensure compliance with program regulations

- Assist states to develop plans for service delivery and program management

- Achieve awareness of program results

- Improve program performance (for example, reduce default claims)

- Promote awareness of or interest in exemplary practices, models, or components

- Recruit personnel to specific career fields

- Secure test or trial of exemplary or validated practice.

These purposes may be viewed as comprising a spectrum from the most narrow and limited of objectives to the broadest and most comprehensive, as follows:

- Promote awareness of program products on the part of potential users

- Create user interest in products

- Arrange trial or test of products by potential users

- Assist in evaluation by users

- Encourage users to adopt and/or adapt the products.

The fact that in this diversity of purposes there are no consistent and agreed-upon objectives for dissemination activities constitutes a major problem. In part this situation is reflective of differences in legislative mandates, funding for dissemination activities, and the availability of products and services to be disseminated.

As a result program staff lacks adequate direction as to what should be accomplished by dissemination. Each program staff is therefore expected to develop its own statement of dissemination purpose. Because of the unevenness with which this task is accomplished, the potential impact of some programs is diluted. While some programs are simply seeking to promote awareness of their products or services, others are attempting to move potential users all the way through trial and evaluation to adoption of the product or service in some form. Consequently, the range of dissemination purposes characterizing these programs are inadequate in relation to the Division's overall mission for the renewal and reform of educational systems.

TARGET MARKETS

Target Markets Are Broadly Defined And Decision-Makers Are Not Identified With Sufficient Precision

The programs reviewed are addressed to broad market groups, including the following:

- State education agencies
- Local education agencies
- Parents of school children
- General public
- Postsecondary institutions and vocational schools
- Education research and development personnel and organizations
- Education practitioners
- Lenders and loan guarantee agencies
- Postsecondary and vocational school students.

Each of these market groups is broadly defined to include all eligible persons or agencies falling within the target market.

The problem with this approach is that market segmentation does not occur within broad market groupings. SEAs and LEAs are not segmented by such characteristics as size, socioeconomic base, innovation and leadership characteristics, special problems, funding constraints, or other characteristics. In addition, the market analysis does not identify the key decision-makers for each organization within the target market.

Since neither precise target market segments nor relevant decision-makers are identified, dissemination activities cannot be addressed to the areas of greatest potential and thus the impact of dissemination is further weakened.

PRODUCTS AND SERVICES TO BE DISSEMINATED

An Adequate System For Identifying And Designing Products To Be Disseminated Has Not Been Developed

For most programs, the primary product to be disseminated is the grant or contract application (the program regulations and related guidelines or support packages for participants). The primary service being offered consists of technical assistance in completing the application or project design or in complying with program regulations. A partial listing of such products includes the following:

- Descriptions of Federal programs
- Descriptions of exemplary projects
- Research reports
- Descriptions of development activities or results
- Curricular, testing, training, or counseling materials
- Catalogs
- Evaluation reports
- Policy studies
- Syntheses of data or findings
- ERIC materials
- Joint Dissemination Review Panel reports
- Education statistics.

It appears that some potential products and services may not have been identified. For example, where SEAs, LEAs, schools, lenders or other participants in a program may have developed exemplary projects, project elements or management practices, field activities are not always reviewed with an eye toward identifying such products. In general, developers of promising products or practices are free either to identify such products or not to do so.

As a result, some opportunities to reach target markets and serve their needs with exemplary or promising practices may be missed, thereby lessening a program's overall impact.

APPROACH TO DISSEMINATION AND METHODS USED

Many Dissemination Methods Appear Unlikely To Achieve High Impact

A variety of conventional methods is being employed to disseminate products and services to target markets. Most methods are relatively passive in directing precise marketing thrusts toward the decision-makers who are the most likely adopters of the given product or service. There appears to be a general preference for relying on broad distribution of printed materials, including the use of passive archival systems which are accessible to organizations in the field. There is no widespread use of field-based technical assistance to assist units in the target market in identifying relevant product or service needs and in adopting or adapting Federally produced products. In general this function is viewed as a responsibility of the states or the individual organizations in the target market.

Most methods used lack imagination and are not specifically designed to achieve high impact in promoting dissemination. The problem is related to the previously noted lack of: (1) market segmentation on the basis of potential users' characteristics, and (2) identification of relevant decision-makers for each organizational unit in the target market segment.

The nature of the methods most frequently used makes it difficult, if not impossible, to assess the impact and benefits resulting from dissemination efforts. As a result, it is possible that large amounts of effort and expense are being wasted.

ORGANIZATION OF RESPONSIBILITY FOR DISSEMINATION

As Currently Organized, Dissemination Is Not Subject To Effective Direction Of Effort Or Accountability

Dissemination activities are undertaken by program staffs in a variety of ways generally incidental to their primary duties, with exceptions notably in the Title I and Handicapped Education programs. Incidental to providing most of the field-based technical assistance to program participants, the Regional Offices also disseminate some information.

The problem with this assignment of organizational responsibility is that it does not permit clear direction of effort or accountability for performance. As a result, the Division cannot control either the effort expended for dissemination or the outcome of dissemination activities. Furthermore the Division cannot account to the Office of the Secretary of DHEW or to Congress on the basic questions of who is disseminating what, to whom, how, and with what results and benefits.

LEVEL OF EFFORT

The Level Of Dissemination Effort Is Unequal Among Programs With A Consequent Effect On The Overall Impact Of The Programs

There are great variations in the level of dissemination effort from one program to another. Funding specifically earmarked for dissemination is generally unavailable, except for Title I and Handicapped Education programs.

Since the level of funding is a major determinant of the level of effort given to dissemination, some programs fail to achieve an adequate level of dissemination. This problem was noted by most program officers interviewed.

The overall results of dissemination are muted, with a few exceptions. Thus, the benefits of some programs are less widely available than others to prospective users, and some products and services which ought to be disseminated are not.

IV - DEVELOPING A CONCEPTUAL FRAMEWORK

In this chapter a conceptual framework for dissemination is suggested. The following sections describe our approach to its development, the essential elements of the framework and the functions required for its implementation.

APPROACH TO DEVELOPING A CONCEPTUAL FRAMEWORK

Several obstacles to the development of a conceptual framework have been identified in the course of this study. Legislation, the literature on the subject, and the Education Division's efforts at policy development and implementation have created or encountered difficulties in arriving at clear and effective practice. Preeminent among these difficulties is the meaning attached to dissemination. Despite a general assumption that its meaning is well known, our inquiries have established that its definition is not clear and that, in fact, it implies different things to different users.

Discussion without definition has led to some apparent confusion. By some it is used to indicate a straightforward announcement, promulgation, or distribution of information in whatever form it may take; to others it is a more complex matter which seeks to achieve particular results with the information. And, not infrequently, a variety of other activities are associated with the imparting of the information. The reasons stem, in large part, from the purposes for which dissemination is made. These, ranging from passive to active, differ from one program to another and from one agency to another. Nearer to the root of the problem may be the question of Federal education policy. It is limited by the recognized responsibility of the states. However, in the attempt to influence the directions taken by the states, Federal agencies adopt a variety of strategies to achieve goals that may be less than adequately described by the relevant legislation or may be left unstated by the agency.

In order to sort out what happens in the process of Federal education programs, we have prepared the flow chart on the following page (Exhibit IV-1). It identifies the major stages of activity and where dissemination occurs. This schematic device views the process across the entire Division. Rather than

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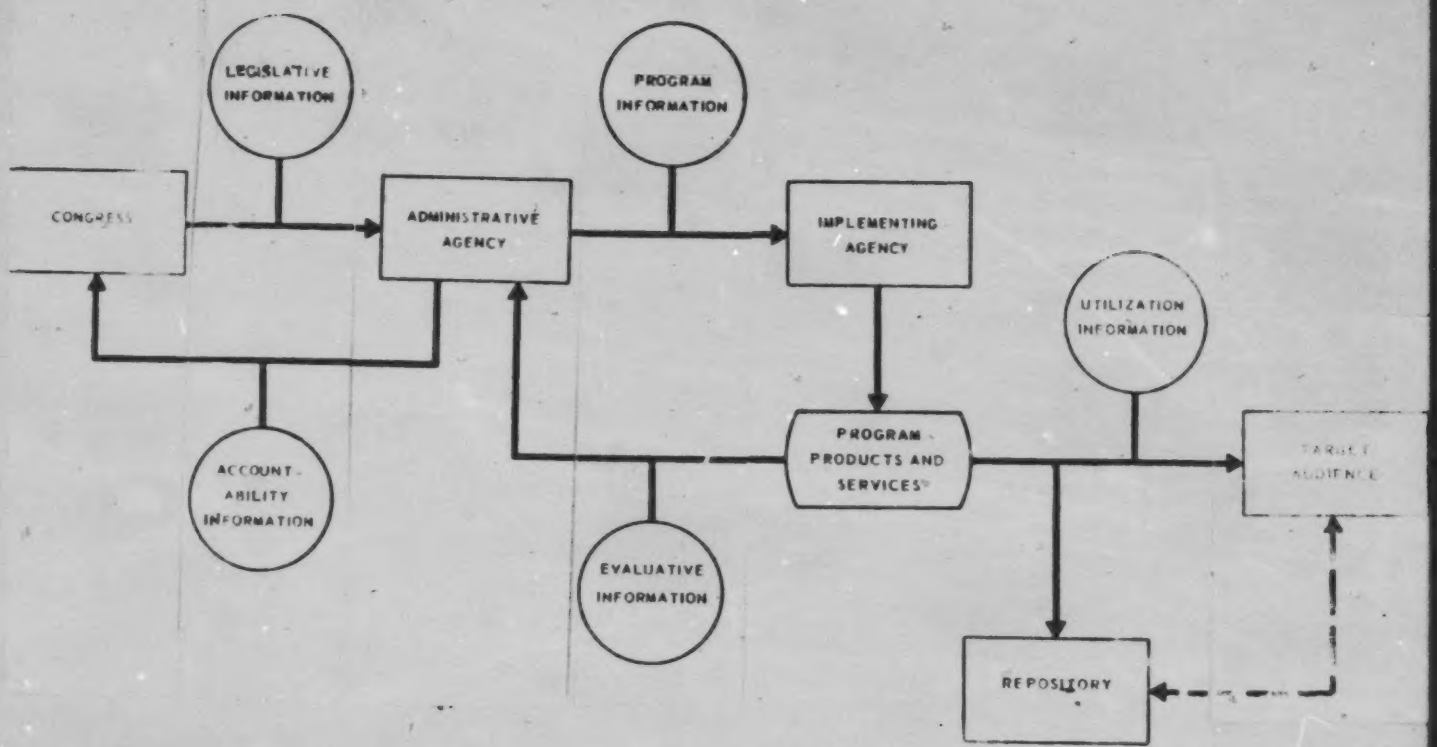
CONCEPTUAL FRAMEWORK FOR DISSEMINATION IN EDUCATION: STAGES IN THE PROCESS



limiting the overview to knowledge production and utilization, as many studies have done, this approach is designed to depict any education programs where dissemination may be involved. It does so in an effort to clarify the meaning of dissemination and its relationship to Federal policy.

The process begins with the passage of legislation by the Congress. Information about legislation is transmitted to a large public through a variety of means such as speeches, news releases, special publications or articles, and to the administering agency through copies of the Act and transcripts of House or conference reports that may disclose more of the Congress's intention than is conveyed by the legislation itself. Given the limits of the Federal role in education, the administering agency is differentiated from the implementing agency. States, local school districts, other grantees and contractors are responsible for carrying out the intent of a program. The Federal bureau or other governmental unit, acting as agent, disburses funds and provides guidance on their expenditure. It conveys or disseminates information about the program and also offers guidance in preparing plans, contract proposals or grant applications. Where the implementing agency is the same as the administrative agency, the same movement of information occurs internally. The implementation of a program then results in outcomes such as new information, products, projects or other materials and information. These may be deposited in a repository such as ERIC, where they are available to whoever seeks them out, or they enter an active process in which they are destined for utilization by appropriate consumers. It is within this latter process that information promoting their use is disseminated and where knowledge utilization becomes relevant. In order to promote utilization, additional functions also become relevant. These include the identification of promising or exemplary "products," the validation of their effectiveness, the analysis of appropriate markets and, through various mechanisms and forms of assistance, the reduction of barriers to utilization by target audiences.

Thus, dissemination occurs at each of several stages in the process. It is what program administrators say they do; but what they do differs at different stages in their programs. As the term is used its meanings vary, stamped by the intentions or plans of those who use it. If discussion is to lead to enlightenment rather than confusion, then the meaning of dissemination must have some consistency, and the usage of the term will need to convey a clear image rather than be a shelter for private ideas. The characteristic common to the use of the term at each stage is that it involves the promulgation of information. If the meaning of dissemination is limited to this characteristic, then it attains a consistent understanding among all users: legislators, researchers, program managers and education practitioners. In this report, therefore, and for the purpose of developing a conceptual framework, dissemination will be defined as spreading information. For the same purpose, all of the related activities that may accompany dissemination should be identified separately.

ELEMENTS OF A CONCEPTUAL FRAMEWORK

Once it is recognized that dissemination is a characteristic function at the several stages of the education process and in the variety of programs engaged in that process, basic differences remain to be explained. The needs of the target audience, the characteristics of the information or products to be disseminated and the methods of dissemination - all may differ according to the program and the agency responsible. Under these conditions, it is apparent that dissemination will have specific purposes that are not the same for each program, and that the fundamental differences or variables lie in the purpose of the program.

Therefore, in developing a conceptual framework, the first step is to distinguish the essential purpose of each program or type of program involved. Succeeding elements would then include:

- Agency responsible for implementation of the program
- Purpose of dissemination based on program purpose
- Information and associated services required by the target audience of the program
- Appropriate methods of distributing information and services
- Appropriate Federal unit to give direction and be accountable for dissemination in each type of program.

The matrix on the following page (Exhibit IV-2) presents an overview of a proposed conceptual framework for dissemination in education. In it each of the elements listed above is defined in terms of program purposes. The following paragraphs describe the range of program purposes identified and the consequent definition of elements derived from these purposes.

From our review of Federal education legislation and the assessment of dissemination in representative programs, it has been possible to identify five categories of program purposes. These are:

- Planning and conducting categorical education programs
- Developing new knowledge about education and learning

* See p. 7-8

- Developing, demonstrating and evaluating new education methods and practices

- Developing and implementing individual projects to improve educational effectiveness

- Providing auxiliary services and assistance to students.

Formula grants or categorical programs are a basic vehicle for delivering Federal aid to education. The purpose of these programs is to ensure the proper planning and conduct of these programs in areas such as education of the handicapped, vocational education and compensatory education. For all such programs, the responsibility for implementation lies with the states. The Federal dissemination role is thereby limited to promoting and guiding the preparation of state plans under which the states become eligible to receive Federal grant funds. As the target for this type of dissemination, the states require and receive Federal regulations governing the distribution of funds and the conditions required for the organization and conduct of programs, as well as guidelines and forms for completing state plans. They may also be advised of Federal priorities in a particular year and be provided with sample plans or project designs. Interpretation of Federal requirements is also made available as is some assistance in preparing plans. Materials for these purposes are usually prepared in printed form and communicated through regular mailings to the states. Assistance is regularly provided by staff from the Regional Offices and, less regularly, by specialists from Washington. Responsibility at the Federal level for directing the effort described would be found in one of the four bureaus and in one or more divisions within the bureaus.

Education research has the purpose of developing new knowledge about education and learning. These are two processes about which scientific knowledge is inadequate and for which the Federal Government has assumed leadership responsibility. The responsibility for developing a systematic research program properly belongs and has been placed in NIE. As carried out, funds are awarded for this purpose to individual grantees and contractors. The principal purpose of dissemination in this program is to distribute the new knowledge resulting from research to those who may be able to apply it to the improvement of education. In this conceptual framework, it is assumed that such knowledge will be of interest to persons or institutions with the capacity for testing and organizing it in experimental or demonstration projects that may subsequently be recommended to practitioners. Under these conditions, the information to be disseminated will consist mainly of research reports and research synthesis, made available by the means regularly employed in the scientific community for reporting on research (that is, through publication in scholarly journals and presentation at professional conferences). In addition

they would be placed in a central repository such as ERIC and in libraries where they could be retrieved or referred to by interested professionals. Responsibility for directing, coordinating and accounting for this dissemination effort would be assigned, as it is, to an appropriate unit of NIE.

The third type of program identified concerns the use of new knowledge from whatever source. Its purpose is the development, demonstration and evaluation of new education methods and practices. Unlike the program purposes identified earlier, in this the locus of responsibility for implementation may be found in a number of places: in NIE or OE discretionary programs, in the states or among grantees and contractors of the states, or in the Federal Government. However, once new methods and practices have been scientifically demonstrated and evaluated, the purpose of dissemination is to distribute information about innovative programs and exemplary practices to potential adopters. Note should be taken here that we are referring to programs and practices that have been developed as a result of scientific research and tested according to scientific methodology. The information disseminated may take a variety of forms, as appropriate, and may include articles, reports, descriptive catalogs or packages on particular programs or practices and their implementation. Distribution may occur through publication in education journals or through special publications, conference presentation, or observation by potential adopters supported by Federal or state funds. The direction and accountability for this area of dissemination should be the responsibility of a centralized group in the Education Division, which would plan and coordinate such distribution.

The fourth purpose identified relates to those programs in which practitioners in local school districts, with or without grant support, attempt changes in the way particular subjects are taught or particular groups of students are handled. Their purpose is the development and implementation of individual projects to improve educational effectiveness. These may involve curriculums, staffing, teaching methods or other changes from existing organization and procedures. The resulting project is a product of the local school district, designed to meet a local need. While it may frequently include new knowledge in its design and carry an evaluation component, it is not a product of systematic research and development. It may be no more than an adaptation in one school of what has been done elsewhere in another school. Dissemination in these circumstances has the purpose of promoting knowledge of promising practices and products among potentially interested school districts. Depending on Federal or state policy, the objective of dissemination may be to promote the use of these practices and products, in whole or in part. Potential users would need information about what was available to meet their particular needs

from among the profusion of projects in existence. They might also need assistance in identifying relevant practices and products, in planning their own projects, and in adopting others. In addition, some assurance of the efficacy of practices being promoted would be needed. Methods by which information would be distributed to potential users would include catalogs and various kinds of descriptive packages, through either Federal or state agencies, regional laboratories or other contractors, or commercial channels. Assistance would come from the same sources, preferably on a face-to-face basis. The effort to implement change might be facilitated by financial support. Given the multiplicity of products and potential users, a diversity of distributors must be assumed. Ensuring that distribution is taking place, that it is coordinated to bring particular products to the attention of appropriate target audiences, and that the extent and impact of this effort is accounted for should be the responsibility of "marketing" or dissemination units in the program bureaus and divisions.

A fifth type of program activity results from Federal education legislation. Its purpose is to provide auxiliary services and financial assistance to students, mainly at the postsecondary level. These programs are carried out by educational institutions and other organizations. Dissemination is concerned with the distribution of information to students on the services and aid available, and to educational institutions and other organizations on the operation and improvement of these programs. The information distributed to program operators would include, as it does for the formula grant programs, regulations, guidelines, forms and manuals. These would be made available by regular means of communication with institutions, generally by mail. Interpretation of these requirements and counsel on implementation would be accomplished through personal visits and conferences by Regional Office staff and specialists from the Division. Responsibility for the general direction of the program would reside in the appropriate bureau or division, working through the Regional Offices.

Thus, in analyzing and aligning the elements of this conceptual framework, several steps have been taken:

- Program purpose has been found to be the fundamental element in developing a conceptual scheme for dissemination.

- Dissemination has been shown to differ according to program type and purpose.

- Target audiences for dissemination have been shown to have different needs.

- Information or products to be distributed differ according to program and purpose.

- Assistance and services related to dissemination vary according to program and Federal policy.

- Methods of distributing information have been found to vary according to program, target audience and information or products to be distributed.

- Finally, Federal responsibility for direction, depending on program and other elements, may range from full control to coordination and from centralized to decentralized direction, while being accountable across all programs.

FUNCTIONAL ELEMENTS OF FRAMEWORK

For better understanding the implications of the conceptual framework for Federal responsibility, the functions inherent in the framework have been analyzed. The chart on the following page (Exhibit IV-3) presents this analysis by identifying these functions and placing them in a logical relationship to each other. The recommended organization of this function in the context of the Education Division is described in the next chapter. This section is concerned with what has to be done, not with who does it.

Operating Functions

Three major categories of dissemination activities have been identified:

- Research and development programs

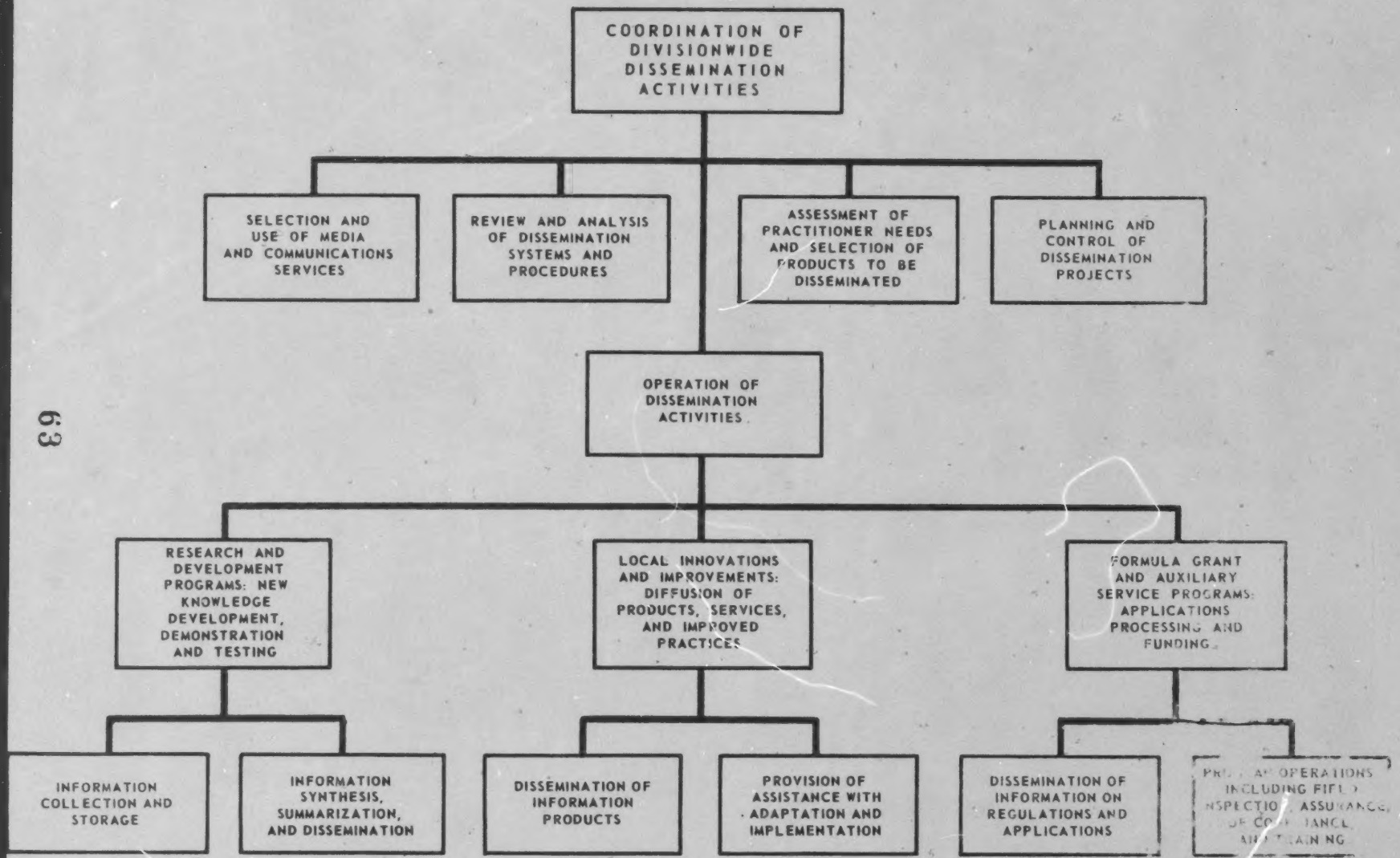
- Local innovations and improvements

- Formula grant and auxiliary service programs.

Research and development programs are a major Federal responsibility. As defined in this functional scheme, research and development encompass both the second and third program purposes traced in the conceptual framework (that is, the development of new knowledge about education and learning and the application, demonstration and testing of this knowledge in experimental or pilot projects). This program is conceived as a planned and directed process carried out in conformity with accepted scientific methods. It is the

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
EDUCATION DIVISION

CONCEPTUAL FRAMEWORK FOR DISSEMINATION
FUNCTIONS TO BE PERFORMED


COORDINATION OF DIVISIONWIDE DISSEMINATION ACTIVITIES
SELECTION AND USE OF MEDIA AND COMMUNICATIONS SERVICES
REVIEW AND ANALYSIS OF DISSEMINATION SYSTEMS AND PROCEDURES
ASSESSMENT OF PRACTITIONER NEEDS AND SELECTION OF PRODUCTS TO BE DISSEMINATED
PLANNING AND CONTROL OF DISSEMINATION PROJECTS
OPERATION OF DISSEMINATION ACTIVITIES
RESEARCH AND DEVELOPMENT PROGRAMS: NEW KNOWLEDGE DEVELOPMENT, DEMONSTRATION AND TESTING
LOCAL INNOVATIONS AND IMPROVEMENTS: DIFFUSION OF PRODUCTS, SERVICES, AND IMPROVED PRACTICES
FORMULA GRANT AND AUXILIARY SERVICE PROGRAMS: APPLICATIONS PROCESSING AND FUNDING
INFORMATION COLLECTION AND STORAGE
INFORMATION SYNTHESIS, SUMMARIZATION, AND DISSEMINATION
DISSEMINATION OF INFORMATION PRODUCTS
PROVISION OF ASSISTANCE WITH ADAPTATION AND IMPLEMENTATION
DISSEMINATION OF INFORMATION ON REGULATIONS AND APPLICATIONS
PROJECT OPERATIONS INCLUDING FIELD INSPECTION, ASSURANCE OF COMPLIANCE AND TRAINING

means by which scientific inquiry is applied to solving priority problems in education, but does not include the multiplicity of efforts throughout the field of education to deal with needs and problems through other methods or less rigorous standards. It is also the means by which the results of research are transmitted to those who can best use this knowledge for the improvement of education.

For the purposes of dissemination of research and development programs, two functions are implied. The first involves the collection and storage of information. Repositories or resource centers, such as in fact now exist, are intended to fulfill this function. As indicated in the process analysis in the first section of this chapter, this is viewed as a relatively passive function. Materials are classified, indexed and stored; their retrieval and use depend on the interest and initiative of the potential user. The second function involves the summarization, synthesis and distribution of information resulting from research. More active, it requires the identification of potential users, organization of the material in appropriate form and dissemination to the target audience.

The second major category of operational functions covers local development of innovations and improvements. These efforts are carried out through a variety of programs - largely though not exclusively with Federal funding - in hundreds or thousands of local school districts as well as in the State Departments of Education. The results of these activities include improved approaches to, or new, curriculums, course content, teaching methods, use of teaching materials, training, administration and special problems. With reference to the conceptual framework, these activities relate to the program purpose for developing and implementing individual projects to improve educational effectiveness. What is characteristic of these activities is that they represent local efforts to meet particular local needs. Despite the efforts of Federal program managers to influence direction and content, the input and initiative remain local. Moreover, these are largely pragmatic projects, fitted to local capabilities. They are not part of a directed plan of research and, while they may have some of the trappings, they rarely claim (nor do they have to claim) scientific validity.

The pertinent question is how to spread the results of these efforts so that the maximum number of school districts may have the opportunity to adopt appropriate and acceptable innovations and improved practices. The situation is one in which education products, whatever form they may take, are available to meet the needs of target audiences. In a commercial context, it is a matter of marketing; that is, it involves identifying products for market segments, presenting product information, securing consideration of the products and closing with a decision to buy or, as it may happen, not to buy. In the

field of education practice, the process is similar. It, too, involves the identification of products designed to meet the particular needs of distinct target audiences, the dissemination of information to these audiences and the consideration of alternatives, and concludes with a decision to adopt or not to adopt. The Federal role, allowing for the constitutional limitation placed on it, can extend over this process. At the operational level, it can be performed through two functions. The first is disseminating information on products and practices. The second is providing assistance with decision-making, adaptation and implementation.

The third major operational category of dissemination activities covers the area of formula grants and services. This function stems from program purposes in the conceptual framework for planning and conducting categorical education programs and providing auxiliary services and assistance to students. Involved is the processing of applications and funding. These are routine procedures now performed throughout several bureaus in which the Federal role is substantively different from that in the other major functions. With regard to dissemination, the responsibility is to distribute information that can provide all necessary guidance for the development of applications or state plans. Closely related, but distinct from this dissemination function at the operating level, is the duty of monitoring programs in the field, assuring compliance with Federal legislation and regulations, and offering training or other assistance for these purposes.

Support And Control Functions

In addition to the operations functions for dissemination described in the preceding section, several other functions are required to ensure maximum effectiveness. These are either technical functions needed to support operational activities or functions for control and coordination. Five have been identified and are described in the following paragraphs:

- Media and communication services
- Analytical services for systems and procedures
- Assessment of practitioner needs
- Program planning and control
- Coordination of dissemination activities.

Media and communication services refers to the technical expertise required to produce printed material and other products in ways that are appropriate and attractive to the audience for whom they are intended. Included in these services may be the selection of format, typeface and graphics for printed materials, or the design and packaging of other products. In addition to physical appearance, the arrangements for production of materials, as well as for storage and distribution, will require expert assistance. Counsel on matters of copyright and financial arrangements would also be required. These are all matters of special expertise separate from the knowledge of substantive content of materials to be distributed. Any or all of these services can contribute significantly to the effectiveness of dissemination programs and should thus be recognized as distinct areas of responsibility and function.

Analytical services for systems and procedures refers to methods by which dissemination programs are organized and materials are distributed. Distinct from the mechanics of physical distribution covered in media services above is the whole area of the means by which dissemination can be carried out effectively. This involves technical questions of how different types of material should be presented to different audiences, how printed materials should be organized, how meetings should be structured, how face-to-face contacts should be managed, what should be disseminated to whom and the qualifications required in persons performing these functions. Not only knowledge but experience in this area will be needed. These analytical services would be based on a continuing review and assessment of the operation and accomplishments of existing dissemination programs. As a technical resource, this function would offer a broad range of accumulated knowledge and experience. Personnel responsible for the operation of dissemination programs would be able to enhance their efficiency and effectiveness by drawing upon this resource.

Another area of knowledge necessary to the dissemination program manager is the needs of his audience. The activity required to assess practitioner needs is seen as a separate function. It includes identification of market segments, determination of how decisions are made in these areas, and research on information, products and services that may be required by each segment. This knowledge would be acquired through surveys, field reviews and contracts for these purposes, and would be made available through periodic reports and direct consultation with operational managers. In order to be effective, this function should also include the duty of assisting in the selection of information and products to be distributed. The area of market research as outlined has been recognized as a notable weakness in current dissemination efforts. The proposed function could contribute significantly to relieving this deficiency.

The fourth function required in relation to all dissemination programs is an overall control of program planning and initiation. Since dissemination is a mandated activity in most education programs, it is reasonable to assume the need for controls that will assure timely planning of dissemination, adherence to schedules, conformity to legislative and other legal requirements, utilization of available resources, technical effectiveness of plans, adherence to budget constraints, avoidance of duplication as well as coordination with other programs as indicated. The authority to give or withhold approval of dissemination efforts is inherent in this function. It is needed because heretofore dissemination has been carried out in fragmented fashion. Officials have lacked the information required to be properly accountable. This function is intended to provide them with the needed information and controls.

Finally, there is a clear need for general coordination or management of the functions described. The technical support functions represent separate areas of expertise and responsibility; nevertheless, they relate to each other. For their responsibilities and relationships to be effective, supervision is required. Furthermore, their responsibilities are for the most part exercised in relation to separate operating programs, each with its own responsibilities for dissemination. The coordination of these relationships is essential to the effective functioning of the overall dissemination effort.

How the entire range of dissemination functions may be organized in the context of the Education Division is described in the next chapter.

V - ORGANIZATION AND IMPLEMENTATION OF PROPOSED CONCEPTUAL FRAMEWORK FOR DISSEMINATION

The purposes of this chapter are to recommend an approach to structuring the assignment of responsibility for the performance of required dissemination and related functions, and to outline a management plan for the implementation of the recommended approach. The chapter is divided into the following sections:

- Importance of organization for dissemination
- Approach to organization
- Management plan for implementation.

IMPORTANCE OF ORGANIZATION FOR DISSEMINATION

Dissemination and its associated functions are the primary vehicles for achieving the Division's mission - the renewal and reform of educational practice. Given the constitutional allocation of authority to the states for the direct provision of education services, the Federal role therein is limited to stimulating innovation and improvement through state assistance, to research and development, and to the dissemination of exemplary practices, products, and services. Only by means of its dissemination activities can the Division focus directly on the adoption of exemplary practices leading to renewal and reform of the education system. Hence, dissemination functions should be assigned a high priority among the Division's support programs.

Unfortunately, as our review has shown (Chapters II and III), the progress of dissemination activity is beset by problems. Legislation has created a situation in which responsibilities are contradictory, uncoordinated and underfunded. Efforts at policy development in the Education Division have been unsuccessful in resolving or accommodating these inconsistencies. The implementation of dissemination programs has suffered further from insufficient knowledge and experience of how to conduct effective programs. Despite the contributions of numerous studies, a sound conceptual framework has been lacking. Nevertheless the pressures for effective dissemination have mounted and cannot be ignored.

In these circumstances, positive and productive steps must be taken. These are expected by the Congress and by the educational community, and they are expected now. We believe that the best immediate approach can be made through revised organizational arrangements. Requisite changes in legislation probably cannot be depended upon in the short term, if they can be expected at all. Gaps in knowledge about dissemination cannot be filled without extensive experience over time. The development and articulation of policy will be a continuing need. An organizational approach thus appears to offer the best prospect for progress. Not only is it a means of approaching the Division's dissemination responsibilities without delay, but it can also foster more effective action without waiting for the complete resolution of all relevant issues. It can indeed place the Division in a position not only to deal with these issues more expeditiously but also to gain the expertise and experience needed to resolve them in the longer term.

APPROACH TO ORGANIZATION

Responsibility for dissemination activities should be assigned at a high level within the Division to ensure its independence. Unless there is independent responsibility for planning, coordinating, executing and evaluating dissemination activities, there can be no assurance that dissemination will, in practice, be accorded the priority it deserves. The dissemination function should be assigned to a Division staff officer whose status is comparable to those responsible for policy, legislation, administration, and public information. In this way, the Division will avoid continuing the present situation in which dissemination is an incidental function among other agency and bureau responsibilities, rarely given direct attention, but rather pursued only as other duties permit. If dissemination activities are to achieve a satisfactory level of effectiveness, there must be a clear assignment of organizational responsibility, together with appropriate staffing, funding, and procedures for ensuring accountability for results. The organization structure should permit the Division to plan and control dissemination activities carried out on a decentralized basis, to support and assist in these activities, and to report to the Department and the Congress on specific dissemination objectives, activities and accomplishments.

Basic allocations of responsibility are recommended as follows:

- NIE should be responsible for the dissemination of new knowledge.
- OE bureaus should be responsible for disseminating information required for program operations.

- Diffusion projects should be managed by OE.

- A coordinating unit should be created to provide technical services, including needs assessment, planning, systems review, and media services.

These general provisions are discussed below in greater detail.

NIE Should Be Responsible For Dissemination Of New Knowledge

NIE should continue to exercise responsibility for the dissemination of new knowledge as a part of its overall responsibility for managing and conducting educational research and development. Through the use of the ERIC system and its individual clearinghouses, and of the collection, storage and other linkage mechanisms, NIE should focus on dissemination research and information products to its target markets, including the following:

- Research contractors and grantees

- OE innovation and development program offices and project directors

- State education agencies and their research and development departments.

NIE's dissemination activities should be coordinated by its Dissemination and Resources Group, which would also be responsible for submitting regular reports to ASE on specific dissemination objectives, activities, and accomplishments.

OE Bureaus Should Disseminate Information Required For Program Operations

Program bureaus and offices in OE should continue to be responsible for the dissemination of information required for the operation of state assistance, formula grant, student aid, demonstration and service programs. Targeted recipients of this information will include state agencies responsible for elementary and secondary education, vocational education, special education and student loan guarantees; postsecondary institutions and lending institutions; and other program participants.

The primary purposes of these dissemination activities are to improve program operations and to ensure compliance with regulations. Products to be disseminated will include application forms, guidelines, regulations, operating manuals, sample project plans and project designs, formats for evaluation and reporting, and information on effective program and project management

practices. Related services required to disseminate these products successfully will include assistance in the preparation of applications and reports, interpretation of regulations, and implementation of improved management practices. This assistance will need to be provided, at least in part, on a direct, face-to-face basis through the use of site visits, state and regional conferences and workshops, and other techniques. Regional Office personnel should be relied on heavily to provide these services. However, the program bureaus and offices should be held accountable for the overall effectiveness of these dissemination activities, including the distribution of products and the provision of related services.

Diffusion Projects Should Be Managed By OE

Projects whose primary purpose is to promote the adoption of promising new educational practices should be the responsibility of the Office of Education. These projects share few of the characteristics of basic or developmental research, although they sometimes carry the research label and are designed to extend the testing and evaluation of promising practices and techniques as well as to promote their adoption. Responsibility for planning, coordinating and controlling the dissemination of information, products, and services relating to these projects should be assigned to a new office which should be created within OE. This unit, described below, would be called the Office of Dissemination Planning and Operations, and would be headed by an Assistant Commissioner who would be responsible to the Deputy Commissioner for Planning.

A Coordinating Unit Would Be Created To Provide Technical Services

The Office of Dissemination Planning and Operations would need to be given the authority to take the following steps:

- Require program bureaus and offices to submit detailed dissemination plans
- Approve, modify or disapprove dissemination plans
- Allocate funds for dissemination projects to be used for the execution of approved plans.

Funds for these dissemination projects should come from the discretionary components of each bureau's programs, and should be spent by that bureau as approved by the Office of Dissemination Planning and Operations. In addition, the Office would require salary and expense funding to support the staffing levels recommended in a subsequent section of this chapter.

The role described above would entail two discrete categories of dissemination activity. The primary activity of the Office would be to provide staff support and assistance to the program bureaus and offices in planning and carrying out dissemination projects. A secondary activity of the Office would be to plan and execute, on its own, selected dissemination projects not appropriately related to the missions of the several bureaus.

The Office would provide staff support to program bureaus and offices through three divisions, as follows:

- Division of Media Services
- Division of Systems Review
- Division of Practitioner Needs Assessment.

The Division of Media Services would furnish assistance in writing, information packaging, editing, graphics, and the selection of promotional and communications strategies. The Division of Systems Review would analyze the cost and performance of methods used in dissemination projects, and would formulate recommendations to improve the effectiveness of these techniques. The Division of Practitioner Needs Assessment would analyze the information and product needs of target groups for each of the Education Division's programs, and would segment these target groups to arrive at clearly defined, homogeneous groups with uniform information, product and service needs.

The direct planning and execution of dissemination projects by the Office of Dissemination would, as noted above, be carried out only in areas not falling within the defined missions of the various program bureaus and offices. This activity would be carried out by a fourth division of the Office - the Division of Planning and Operations. This division would also coordinate the dissemination planning efforts of the bureaus by reviewing and approving plans submitted by them and by preparing periodic reports on dissemination operations and results for the Education Division as a whole.

MANAGEMENT PLAN FOR IMPLEMENTATION

Several organizational arrangements are recommended for implementing the dissemination functions described above. These organizational recommendations are being made because in the opinion of the consultants the organizational approach represents the most expeditious and effective means of

dealing with the question of dissemination and related activities. It is not a solution to all problems; it is a start. By making the organizational changes suggested, the Education Division would be placing itself in the best position to explore solutions to problems while extending its experience in dissemination activities. By fixing responsibilities as proposed, this process of development can be fostered, cumulative experience can be assessed and applied, and the effectiveness of dissemination can be improved. Furthermore, changes in organization can be made with the least possible delay; they require no changes in legislation. While legislative changes will be required eventually, much can be accomplished through these recommendations to repair the deficiencies that now exist in conception, organization and expertise.

Three patterns of organization are presented for consideration. They vary from a lesser to a greater degree of change and from the least to the greatest degree of centralization. Which of the alternatives would be most acceptable and which could be implemented most expeditiously are questions that the consultants are not in a position to answer. It is our opinion that more far-reaching change and a greater degree of centralization than now exists would be most effective. However, it is understood that the prospects and implications of each alternative would have to be subjected to serious examination within DHEW and the Education Division. The three alternatives, each of which is described in the succeeding sections of this chapter, are:

- Near-term organization
- Long-term organization
- Ultimate organization.

Near-Term Organization

At present, most dissemination activity is carried out by OE. As suggested earlier in this chapter, OE would continue to perform the bulk of dissemination through its program bureaus and offices. In the short term, a proposed Office of Dissemination could be created within OE to facilitate close coordination with and support of OE dissemination activities. At the same time, this Office should work closely with NIE's Dissemination and Resources Group to create the mechanism for achieving close coordination between OE and NIE in the planning and control of dissemination. As dissemination goals, objectives, plans, and systems evolve throughout the Division, and as the level of dissemination activity rises, the function of Divisionwide coordination might be performed elsewhere, as described later in this section under the heading "Long-Term Organization."

In the first alternative, the initial step in the implementation plan would be to create the Office of Dissemination within OE's Office of Planning. The Office would be headed by an Assistant Commissioner, who would be responsible to the Deputy Commissioner for Planning. Within the Office of Dissemination would be four divisions, staffed as follows:

Division	Recommended Professional Staffing
Media Services	1
Systems Review	1
Practitioner Needs Assessment	2
Planning And Operations	2
Total	6

The total professional staffing for the Office, including the Assistant Commissioner, would be seven positions. This organization plan is shown in Exhibit V-1.

The Office of Dissemination would receive detailed dissemination plans from each of OE's program bureaus and offices for review, modification where indicated, and eventual approval. For all parties, the first iteration of this process would be more detailed and time-consuming than later iterations, which would consist essentially of annual updates and modifications to the original dissemination plan. Each plan would set forth dissemination objectives in relation to overall program objectives; target groups to be reached; information, products, and services to be disseminated; methods to be used and the respective roles of staff in bureaus, regional offices, and other agencies; and results to be obtained. Following approval of detailed dissemination plans, the Office would authorize program bureaus and offices to proceed with execution and would direct the preparation of regular progress reports by bureaus and offices so that actual accomplishments could be related to planned objectives.

One end product of the process outlined above will be the preparation of a Divisionwide dissemination plan covering all programs, products, and target groups. The first version of this plan should be approved and communicated throughout the Division by the start of fiscal year 1977. The primary weakness to be encountered in the preparation of the first Divisionwide plan will be in the areas of practitioner needs assessment and systems review. Lacking an adequate data base on practitioner needs, and lacking experience in evaluating the cost-effectiveness of dissemination methods, the initial approved plan will have

to be restricted to areas where dissemination expenditures can be justified on the basis of expected results. Later versions could provide an expanded scope for dissemination as surveys of practitioner needs and effective techniques become available to the Office of Dissemination. By the end of FY 1977, the stage should be set to determine whether this structure should continue to function unchanged or whether a transition to the long-term structure would be more desirable.

Long-Term Organization

The long-term organization would entail two major changes. First, dissemination as a Divisionwide priority would be reflected in the creation of an Office of Dissemination headed by a Deputy Assistant Secretary responsible to the Assistant Secretary for Education or other higher authority outside of OE and NIE. This Office would be responsible for Divisionwide dissemination planning, coordination, reporting and control. The second change would be the creation within OE of an Office of Dissemination Planning and Operations, headed by an Assistant Commissioner reporting to the Deputy Commissioner for Planning. This Office would be responsible for two functions: the coordination of OE dissemination activity, and the operation of dissemination projects not properly a part of the mission of any of the program bureaus or offices. This organization is displayed in Exhibit V-2.

The Office of Dissemination would direct the preparation of dissemination plans by all units of the Education Division, and would approve the expenditure of program bureau and office discretionary funds for specific projects on the basis of detailed studies of practitioner needs, dissemination methods, and communications techniques. To assist in the performance of these tasks, the Office would be supported by four divisions, as follows:

- Division of Media Services
- Division of Systems Review
- Division of Practitioner Needs Assessment
- Division of Clearinghouse Management.

The Office of Dissemination would also maintain close coordinating relationships with NIE's Dissemination and Resources Group and with OE's Office of Dissemination Planning and Operations. These coordinating relationships, together with the process of reviewing and approving dissemination plans, would be the primary means of achieving coordination throughout the Education Division.

The Division of Media Services would provide services and support to units throughout the Division in the planning, design, and conduct of communications and dissemination projects. This division would require three professional staff positions when fully operational.

The Division of Systems Review would analyze dissemination methods in use throughout the Division and would assist in the planning of new projects and in the improvement of ongoing dissemination projects. This division would also design systems for collecting and reporting information on dissemination activities, costs, and accomplishments, for use both within the Division and for external reporting to the Department and to the Congress. This division would require three professional staff positions when fully operational.

The Division of Practitioner Needs Assessment would assist the Office and units throughout the Division in measuring the demand for information, products, and services produced by the Division's programs. This division's task would also include the preparation of descriptive reports covering the following areas:

- Markets and market segments for Division products
- Nature of products and services required in these markets
- Identification of key decision-makers in organizations comprising these markets
- Information needs of these decision-makers
- Nature of dissemination programs required to serve target market segments.

These reports would be used by the Office in reviewing and approving dissemination plans and in identifying areas of unmet need to which planning efforts should be addressed. This division would require four professional staff positions when fully operational.

The Division of Clearinghouse Management would be created to manage the ERIC system and its component clearinghouses, to ensure that ERIC would be used to collect and disseminate information covering research and development activities throughout the Division, and to integrate ERIC with Divisionwide dissemination plans, strategies, and projects. This division would require two professional staff positions when fully operational.

NIE would continue to be responsible for the dissemination of its research findings and for the development of systems to improve the utilization of research findings by practitioners. This function would remain the responsibility of the Dissemination and Resources Group. Since one major means of disseminating research findings to practitioners would be dissemination projects launched by OE program bureaus and offices, there would continue to be a need for a linkage between NIE and OE. This coordination function would be performed by the Division's Office of Dissemination, as noted above.

The third and ultimate alternative that should be considered is the complete centralization of dissemination functions. In effect, this alternative would institutionalize the functions shown in Exhibit IV-3, which include both coordination or management (and management support) functions and operational functions (as described in Chapter IV and as elaborated above in this chapter). The essential differences from the alternatives presented earlier are that all dissemination and dissemination activities would be centralized under a single head and that they would be carried out independent of both NIE and OE.

The implementation of this alternative would require the creation of a separate dissemination unit, with responsibility either to the Assistant Secretary or other officer similarly placed. Under this officer, who would have the status of a Deputy Assistant Secretary, a traditional line and staff structure would be organized. Functional responsibilities, as shown in Exhibit IV-3, would be assigned to directors. An amendment to the General Education Provisions Act would be a prerequisite.

Although this alternative represents a radical departure from organizational structure and prerogatives, there are cogent arguments for it. Among others, it could provide for the greatest visibility, accountability, competence and efficiency. Upon these grounds it merits consideration. With implementation of this or the other organizational alternatives presented, the improvement and progress of dissemination activities can be anticipated.

A LITERATURE REVIEW FOR DIFFUSION OF EDUCATIONAL R&D PRODUCTS/PROCESSES

INTRODUCTION

The general literature on change and innovation has been ably reviewed by Rogers (1962, 1966), Bennis, Benee and Chin (1969), Miles (1964), Watson (1967a, 1967b), and Rogers and Shoemaker (1971). In the field of education, Havelock (1969) has provided a definitive synthesis which may be usefully augmented by selected, annotated bibliographies (Maquire, 1970; Shelton and Hansel, 1970) and by specialized reviews (e.g., Eidell and Kitchel, 1968, in educational administration; Short, 1973, in curriculum). The reader is referred especially to Havelock (1969) and to Maquire (1970) for more comprehensive treatments of the now extensive literature pertaining to educational change, dissemination, and knowledge utilization. This Appendix deals far more selectively with findings that focus specifically on marketing and distribution systems in the public sector as they interact with local education agencies.

CONCEPTUAL MODELS OF RDD&E DIFFUSION

Until recently, the theoretical and analytic literature on planned change in education has focused heavily on the institutional factors that influence success or failure. Much of this earlier literature was concerned with diffusion and adoption, but much less with implementation and institutionalization.

Havelock (1969), in his review and synthesis of the literature, defined four alternative models, each primarily concerned with the behavior of users before a decision to adopt is made.

The Social Interaction model focuses on diffusion and assumes that information in itself is the major source of motivation to innovate. Tactics following this model focus on communication, media, improved messages and, to some extent, persuasion and decision-making. The central assumption is that exposure to information about "better" or "validated" practice will lead to adoption.

The Research and Development (R&D) model is an explicitly rational and highly linear conception of a sequence of need assessment, goal setting, planning, design, development, and evaluation, followed by revision and mass marketing to relatively passive consumers, who make more or less rational choices among various R&D products/processes.

The Problem-Solving model assumes that the users' needs are paramount in the utilization of knowledge or in selecting and adopting a specific innovation. This model is perhaps closest to the dominant views of the planned change literature with heavy emphasis on a diagnostic approach that emphasizes diagnosis of needs followed by active search, selection, trial, and adaptive incorporation.

Havelock proposed the Linkage model to remedy deficiencies noted in the three previous models. It includes elements of the three other models but attempts to deal with the incentives, behavior, and goals of individual actors in educational institutions.

In large measure, all four of Havelock's models assume that adoption and change are (or should be) a rational process, that adequate information and technical assistance that may be required can be obtained, and that educational users are motivated and able (perhaps with change-agent or linking-agent assistance) to adopt improved educational practices or products.

According to these rational-adoption models, the major problems (barriers) are:

- Inadequate communication channels
- Inadequate dissemination processes
- Inadequate, inappropriate or low-quality information
- Absent or inadequate educational planning
- Lack of resources and trained personnel to provide "linkage," "problem-solving," or implementation technical assistance.

Unfortunately these rationalistic views of educational change have tended to emphasize research on processes relating to dissemination, planning, and adoption, but they have tended to ignore questions relating to the implementation and institutional adaptation and maintenance of an innovation educational product or process.

Critics of these rational-adoption models point out that schools do not have a market-type selection mechanism with profit-maximization incentives. Indeed, the survival of schools is guaranteed by society (Pincus, 1974). Decisions to adopt or reject are seldom made on the merits of the innovation (Rein, 1970; Coleman, 1972) and decision-making is often not an individual proposition (Sieber, 1972; Sikorski, 1975). The usual process of change is from the top down and pressure for change more often comes from outside the school than from assessment of school needs (Bennis, Benne and Chin,

1969; Fullan, 1972; Sarason, 1971; Wirt and Kirst, 1972). Finally, the empirical evidence regarding search and information use suggests that such information-seeking behavior is either not organized or not existent (Hood, 1973; Greenwood, Mann and McLaughlin, 1975).

As the educational-change literature has shifted from deductive and prescriptive models to inductive models based on empirical descriptions of the education change process, it has become increasingly clear that the field of education poses some very special conditions that may severely tax many of the rationalistic assumptions underlying all four of the Havelock models.

These empirical studies have proceeded along several diverse lines of inquiry including:

- Development and evaluation of "social marketing" models (Kotler, 1975; Kotler and Zaltman, 1971; Bilbo, 1973; Burke, 1973; Naidu, 1969)

- Studies of the diffusion and implementation of educational products (Crawford, Kratchovil, and Wright, 1972; Turnbull, Thorn, and Hutchins, 1974)

- Studies focusing on the cost/effectiveness of specific educational diffusion (e.g., Rosenau, 1974) and linkage (Sieber, 1972) backlog

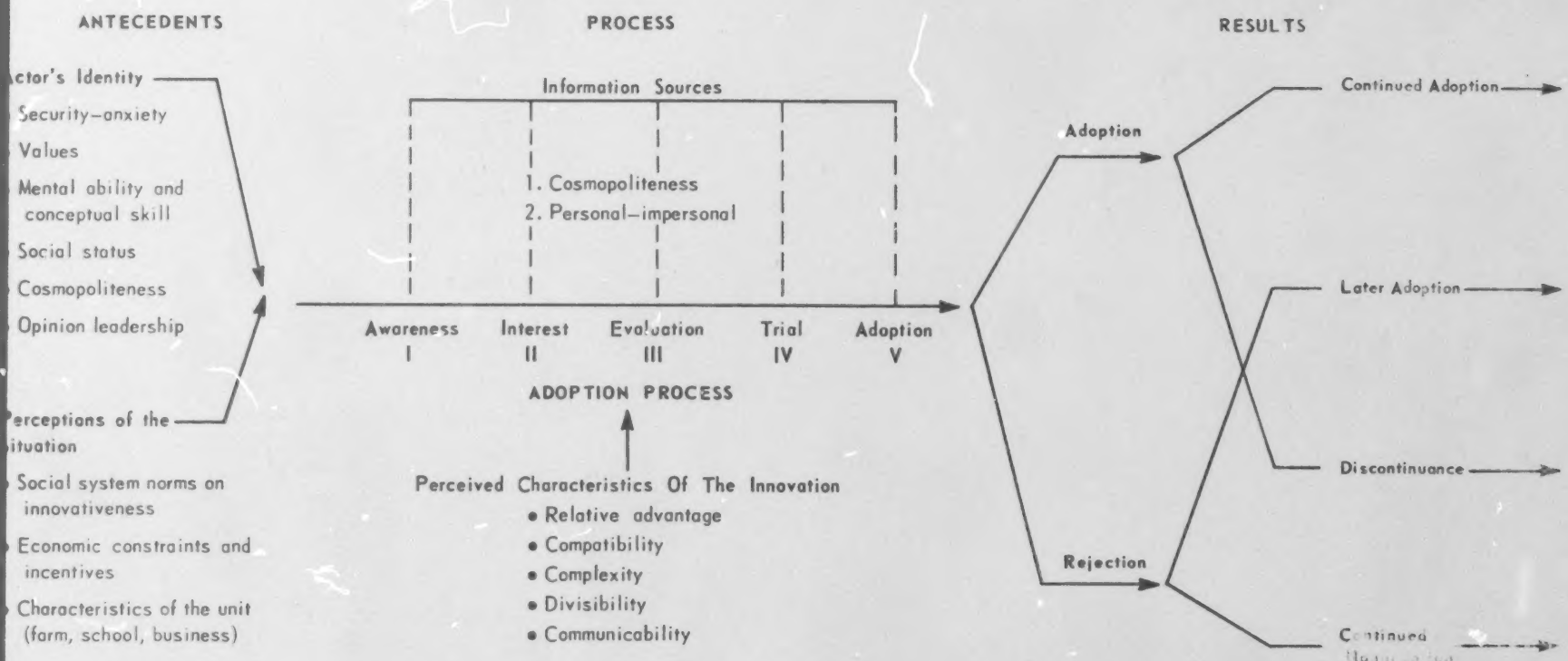
- Studies of the preadoption and postadoption behavior of schools (Berman, Greenwood, McLaughlin, and Pincus, 1975; Bentzen et al., 1974; Charters et al., 1973; Corwin, 1975; Gross, Giacquinta and Bernstein, 1971; Smith and Keith, 1971; Sarason, 1971).

These more recent lines of study have led to the identification of different sets of problems (e.g., marketing as opposed to diffusion; implementation as opposed to adoption) and greater concern with accounting for the multidimensional and dynamic facets of the entire process.

As background for this review, we reproduce below several conceptual models which, although grossly consistent, help to illustrate some of the differences among current conceptions of the "consumer" of educational products/processes.

The first exhibit is from Rogers (1962) as shown in Exhibit A-1, on the following page. It summarizes his paradism for the adoption of an innovation by an individual within a social system. Contained within this paradism are several sets of variables. Two deal with antecedents regarding the individual actor's identity and the actor's perceptions of the situation. These variables

PARADIGM OF THE ADOPTION OF AN INNOVATION BY AN INDIVIDUAL WITHIN A SOCIAL SYSTEM

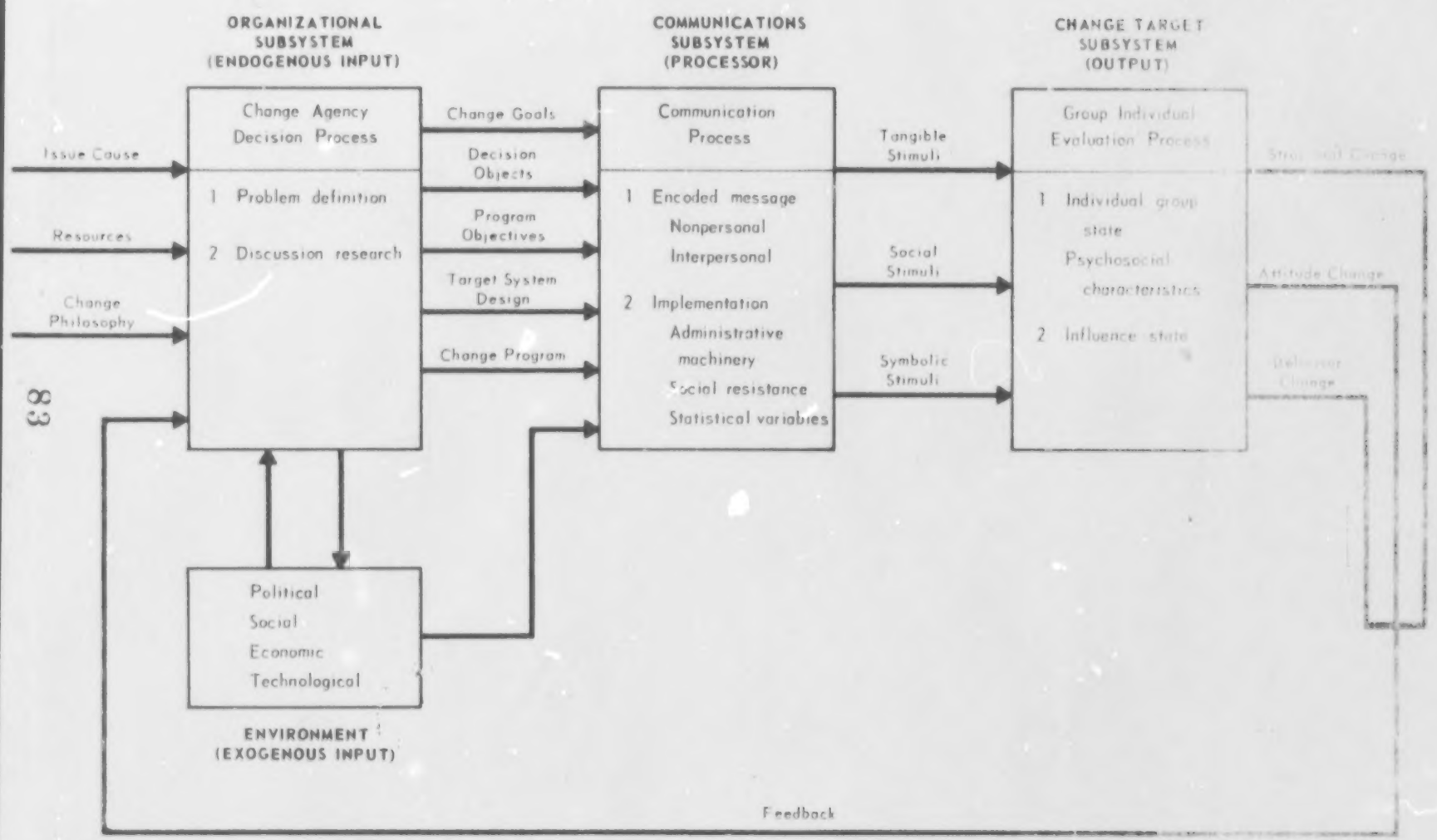


Source: *Extracted from Diffusion of Innovations, by E. M. Rogers, New York, The Free Press, 1962, pp. 303–307.*

provide the context and the motivation for the adoption process which is also influenced by the character and quality of information sources that impinge on the actor, and by the actor's perception of the characteristics of the innovation. Roger's classification of the stages of adoption (awareness, interest, evaluation, trial, and adoption) is a now classic distinction. Finally, the paradigm provides for classes of immediate and later results. The major import of this paradigm is to remind the reader that even when one simplifies the educational-adoption process by focusing on a single individual, a host of variables must be considered in accounting for adoption behavior and outcomes.

In Exhibit A-2, we shift from a psychological focus on the adopting individual to a systems view of change management. This is a highly generic cybernetic-control model that identifies some of the more important change variables that impinge not only on individuals but on organized groups of individuals when change is viewed as a directed or managed process. This model recognizes three major subsystems: the organizational, the communication, and the change target subsystems. Impinging on the decision process within the organizational subsystem are a variety of environmental input factors (political, social, economic, technological) plus more specific inputs (issues/causes, resources, change philosophy) that influence the character and dynamics of the organizational decision process (problem definition, discussion/research). The output of the decision process may include: change goals, decision objectives, program objectives, target system design, and a change program. These are communicated to the change-target subsystem through the communication subsystem which is also influenced by political, social, economic, and technological environmental inputs. The tangible, social, or symbolic stimuli emanating from the communication subsystem act as input to the group/individual evaluation process which is also influenced by a set of internal factors. The target subsystem provides output signals regarding changes in structure, attitude, and behavior which provide feedback to the organizational subsystem's decision process; this, in turn, may modify its activity vis à vis the change target on the basis of feedback or changes in other variables impinging on the organizational subsystem.

In Exhibit A-3 we encounter a deliberately simplified summary of the change process. It is remarkable because it calls attention to several of the later stages in the social-change process which are not so apparent in the two previous exhibits. This paradigm suggests that there are creative cognitive processes, influenced by incentives to innovate, attributes of the innovation and attributes of the adoption unit, which in turn acts on an innovation decision process. This part of the paradigm is quite consonant with the Roger's paradigm in the first exhibit. However, the Lin and Zaltman (1973) social-change paradigm distinguishes an adoption process from a rejection process and, in the case of adoption, carries the paradigm on to consider social interaction and diffusion processes which lead to structural change, functional change, and internal or contact social change.



Source: From "Change Management," Ira Kaufman, p. 25 in Creating Social Change, by Gerald Zaltman, Philip Kotler, and Ira Kaufman, HEW 1972.

These three change-process models are superficially compatible. Unfortunately, each is a severely abstracted depiction of highly complex views of change which may not be adequately appreciated if the reader does not consult the referenced source documents. The three previous exhibits tend to be linear and generic. Exhibit A-4 (Berman et al., Vol. I, p. 19, 1974) is more interactive and specific to education. Rather than dealing with processes, decision points or implementation paths, this model, developed by Rand researchers studying federal programs supporting educational change, attempts to account for the variability in "outcomes" of innovative local educational agency (LEA) projects in terms of the forces affecting these projects. This model is built around three major stages of the change process-support, implementation, and incorporation. The researchers assume that support for a particular innovation plan will be a function of the initial project characteristics, the institutional characteristics of the LEA and the community, and of federal and state policy. Support might be operationalized in terms of resource commitments and the personal backing of significant persons (e.g., the LEA superintendent, a school principal). This Rand model is notable because it is explicitly designed to examine how federal policy has affected LEA's by accounting for that policy influence within the context of other influences.

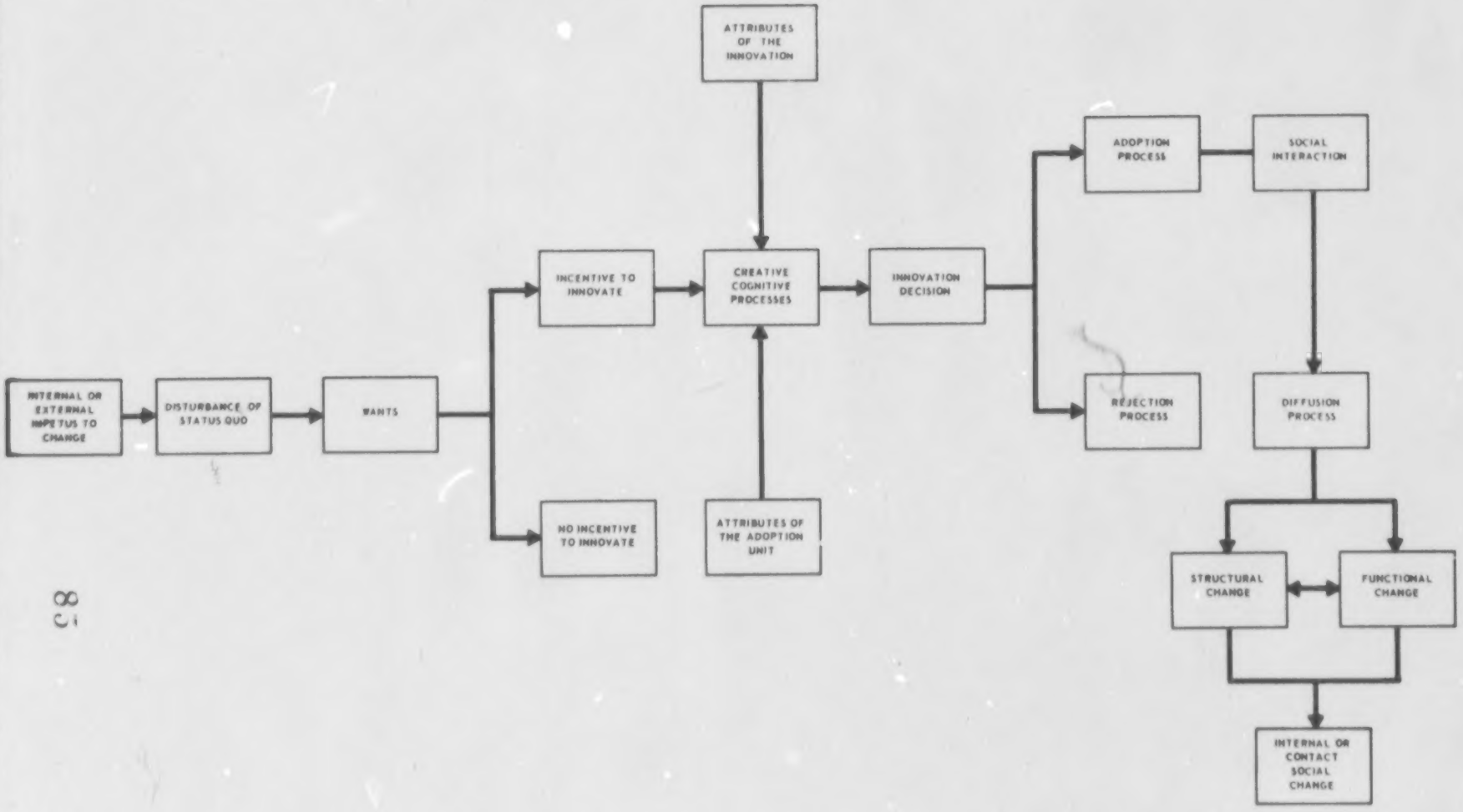
The demographic and political characteristics of the community can affect support by producing pressure for change or by constraining the possibilities of change. The model distinguishes between initial and implemented project characteristics and also between initial and later institutional characteristics.

The implementation phase of the Rand model is reflected in this exhibit by the relationship between student outcomes, institutional changes, and project changes. The model assumes that the project (and the changes it causes in the institution) is only one of the factors affecting student outcomes. Other influencing (and probably dominant) factors are the student's innate endowment, influence from the family, peer group and community, and the characteristics of school experience not affected by the innovation project. Characteristics of the institution may change as a result of the project - including alterations in routinized procedures, in the loci of decision-making, in the roles of individual actors, or in the creation of specialized and differentiated staff.

This model also suggests that community characteristics may influence institutional outcomes. These community characteristics would include elements that change during the life of the project as well as those that remain constant.

In the Rand model each of the types of factors suggested by the boxes in the exhibit has been operationalized in terms of sets of potential classes of measures. For instance, project characteristics have been divided into perceived educational objectives, perceived personal consequences, perceived institutional effects, and project techniques and strategy. Each of these has

SUMMARY PARADIGM OF SOCIAL CHANGE



Source: Adapted from Zaltman and Lin.

EXHIBIT A-3

in turn been further refined to suggest specific indicators or measures. For example, perceived institutional effects may be indexed by the degree to which the project requires change that:

- Increases the level of resource use only
- Affects the resource mix
- Affects the instructional process or methods, without altering resource level or mix
- Affects administrative management without significant alterations of the organizational power structure
- Affects either organizational structure of the school or the school's relation to external authority.

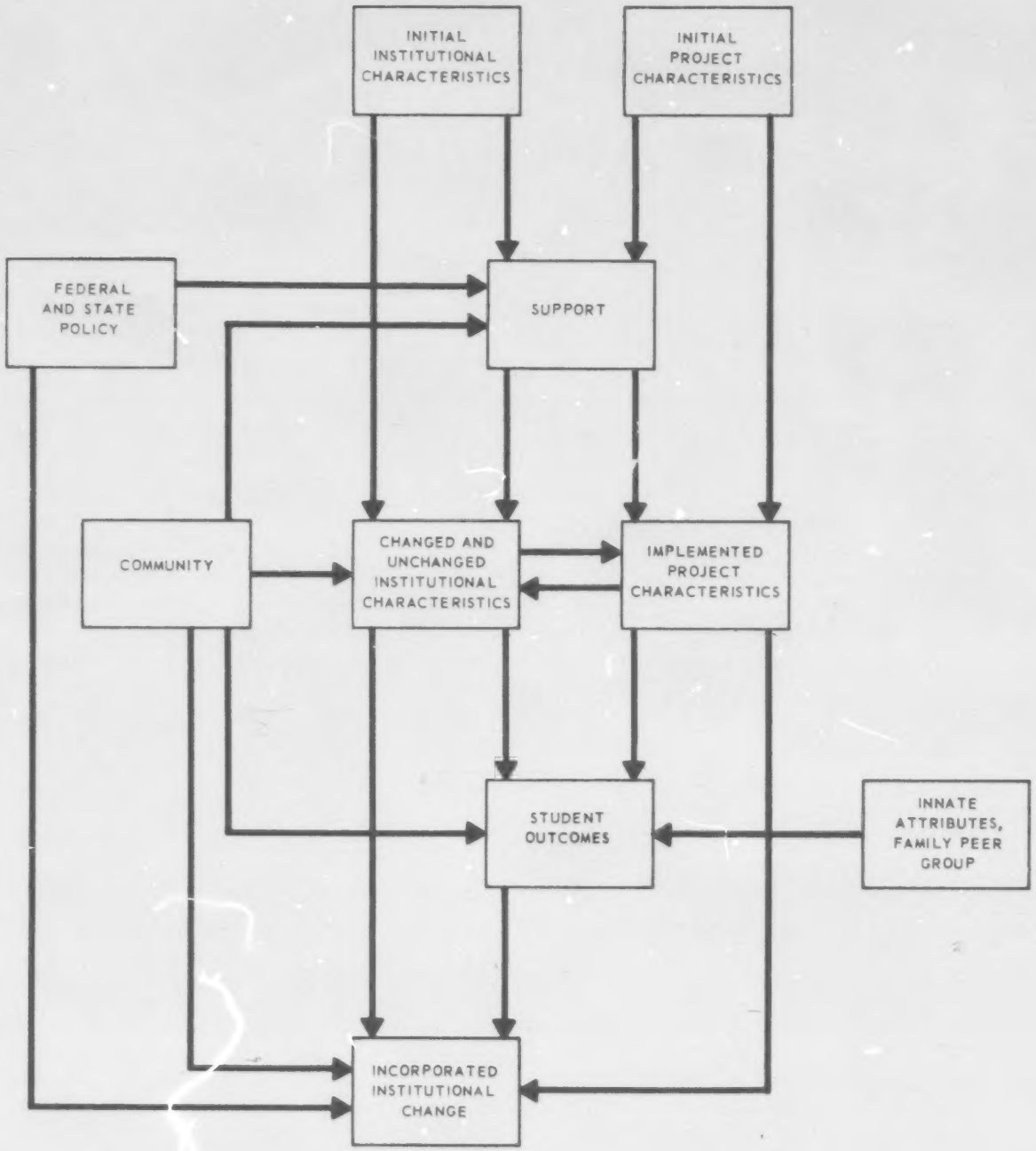
To summarize, the above five models provide several different, but superficially consistent views of the somewhat larger context of educational change. All of the models tend to recognize a multiplicity of factors that may influence the change process and its outcomes. But the models are decidedly different in their focus on individuals, specific organizations or abstract systems as the unit of analysis, in their conception of interaction among significant variables, and in their view of the client as a participant in change.

CONCEPTUAL PERSPECTIVES INFLUENCING FEDERAL POLICY IN EDUCATION

The intent of this section is to provide a brief review of two primary sources which, taken together, help in understanding the policy context for federally funded educational diffusion programs. For those who desire a general treatment of the entire field of federal educational policy formulation we recommend Summerfield's Power and Process (1974), which in turn provides useful references to related sources. But for the far more focused concerns of this review we would single out two sources. Perhaps the most comprehensive background is provided in Educational Research and Development in the United States (NCERD, 1969). This status study lays out a detailed picture of educational research and development in the United States, including an exploration of the conceptual structures and a background description of American education. This is followed by a history of educational research itself, and by descriptions of sponsors, performers, and management of educational R&D. Financial and manpower resources available are reviewed and an analysis of work supported in fiscal year 1968 is presented. This document also devotes three chapters to policy, including assessment of the impact

EXHIBIT A-4

SCHEMATIC DIAGRAM OF FACTORS AFFECTING CHANGE IN THE LEA



Source: From P. Berman and M. W. McLaughlin, Federal Programs Supporting Educational Change, Vol. I: A Model of Educational Change. Santa Monica, Calif., Rand Corp., 1974.

of R&D on educational policy and practice, a review of recent (circa 1967-1969) studies of policy and practice, and a speculative analysis of policy implications from R&D outcomes. From the standpoint of diffusion and dissemination, this extensive status report is remarkable primarily in reflecting a relative absence of major federal concern. Perhaps the most telling treatment regarding adoption and diffusion is found in the chapter dealing with the impact of R&D on educational policy and practice. Following a review of general evidence and presentation of results of a special survey of school superintendents, this chapter is concluded with these observations:

> The evidence presented above permits the generation of several conclusions. The evidence clearly points to an impact of fundamental, conclusion-oriented inquiry on instruction and education. Evidence also exists for substantial impact in the case of some individual development efforts. Just as clear, however, is the suggestion that we have not yet been able to collect very good evidence on the impact of specific research and development activities on educational practice and that, where such evidence has been collected, it has generally tended to demonstrate rather low levels of effect.
>
> Several qualifications must be entered. Reports of use are not the same thing as actual use or actual use as intended. A considerable variety of practices is embraced by such labels as team teaching or nongraded instruction. A second point of not inconsiderable importance is the degree to which specific innovations can in fact be traced to research (in the case of specific development projects like PSSC Physics or CHEM Study it is somewhat easier). More thinking needs to be done on these points before the precision of our conclusions about adoption and diffusion improves very much (NCERD, 1967, p. 153, emphasis added).

Also notable among the final conclusions to this report is the following:

> Probably the most all embracing conclusion that can be drawn from the data is that no overall strategy currently governs the support and growth of educational research and development in the United States...
>
> The preceding chapters provide ample evidence of the absence of such overall design. First, no sponsoring or performing agency during the course of the study identified such a strategy, and indeed, when the issue was broached, most denied that such a strategy existed* (NCERD, 1969, p. 185).

*The report notes that this conclusion does not refer to individual programs or agencies. On the contrary, it notes a number of programs that have very carefully mapped out strategies and are systematically pursuing them.

This report suggests that the problems and issues which must be thoroughly examined before anything approaching an overall strategy for educational research and development can be created, can be approached from three different perspectives, which while not wholly separate, suggest different ways of organizing the issues:

R&D policy strategy. This perspective would focus on questions such as the long-term goal for the relationship of R&D to education, the financial and manpower dimensions, and the development of institutional capabilities.

Educational policy. This perspective stresses the importance of developing effective decision-making procedures which would attend to (1) the planning and analytic requirements for priority, goal, and objective settings, (2) the multiple jurisdictions over education, and (3) the special requirements and contributions of the science and technology communities to educational R&D.

Change process. This perspective raises a series of questions about (1) the manner in which scientific knowledge does or can affect instruction and educational practice, (2) the role, significance and bases for educational "engineering" or educational technology, and (3) the full range of diffusion concerns.

Between 1969 and 1974 the term "research and development" was expanded to explicitly include diffusion and application (RDDA) and then subsumed under the possibly more encompassing rubric Knowledge, Production and Utilization (KPU). However, as the next paper indicates, if there was any progress toward an overall strategy, it may have been in the wrong direction.

Egon Guba and David Clark (1974) have provided an updated historical perspective to the NCERD status paper that reexamines traditional views and offers in their stead a "configurational view." Their central thesis is that current federal policies and programs in support of educational KPU are inadequate to effect significant improvement-oriented change in education, and that these inadequacies are embedded in the conceptual view that has been implicitly adopted to undergird federally funded policies and programs.

Guba and Clark trace federal-level policy relating to educational KPU from 1867 at the time of the establishment of a National Department of Education to the present (1974), but are particularly concerned with the 1954-1974 period which saw immense growth in the KPU enterprise.

Exhibit A-5 provides a capsule review of the general shifts in federal policy for KPU over the past 20 years. According to Guba and Clark, the dominant federal perspective on KPU in the 1956-1962 period was to foster the accumulation of knowledge in the field of education the same way it was apparently accumulating in the social sciences. Applications, diffusion and adoption would take care of themselves. When it appeared that this was not working, programs were introduced to centralize work in specific agencies that would focus on substantive problems (the substantive view) and to develop missing dissemination links between research and development and its application (RDDA view). When this still fell short of expectations, an engineered systems view emerged. Employing predominantly the RDDA change paradigm, this empirical systems view attempted to define roles and articulate components in an attempt to ensure more productive output at the adoption end of the RDDA continuum. Overall the two basic trends over the past 20 years have been (1) to add programs which cover necessary function areas and (2) to move toward program coordination, linkage and control.

Guba and Clark state that the "systems view" of educational R&D, which presupposes and/or attempts to effect a linked set of productive agencies following the RDDA continuum to achieve agreed-upon goals, has led to a cycle of failure by (1) establishing unachievable aspirations, (2) ignoring the goals of individual practitioners and agencies in the KPU community, (3) changing signals persistently, and (4) overcontrolling and overcentralizing programs which have been disappointing.

They suggest that a new conceptual view is required that is (1) sufficient to account for the full spectrum of necessary educational KPU functions, (2) responsive to both individual and institutional goals of agents and agencies, and (3) realistic in its image of the real world of educational KPU. On this last point they observe that the systems view is linked and linear-defining roles for actors and agencies and assuming that the outputs of one component, e.g., research, become the inputs for the next component, i.e., development. In their view, even a cursory examination of the real world of KPU belies these assumptions. Pointing particularly to the dissemination area, they quote Sieber, who in evaluating the Pilot State Dissemination Program, observed:

> "In short, it does not fit any single existing model: and indeed, its emphasis on adaptation to user-defined needs and user-choice of options introduced some very new elements. And yet, despite its messy theoretical foundations, it seems to have worked. I confess that no one was more surprised than I; and I am still trying to understand why." (Sieber, 1974, p. 69)

DEPICTION OF PRIMARY CONCEPTUAL PERSPECTIVES INFLUENCING FEDERAL KPU POLICY IN EDUCATION, 1956–1974

TIME PERIOD	PERSPECTIVE OF KPU	PROGRAM EXAMPLES
1956–1962	Development of new knowledge through individual creativity of scholars – Social Science View	Cooperative Research Program; Title VII of NDEA
1962–1965	(a) Problem delineation by centralized agency – Substantive View	Projects English and Social Studies; R&D Centers in Vocational and Special Education
	(b) Development of systematic elements in KPU – RDDA View	ERIC; R&D Centers
1965 to date	Establishment of a coordinated system–role definition, linkages, centralized control – Systems View	Regional Educational Laboratories; Title III Centers; Experimental Schools; RFP's; RFQ's.

The Guba and Clark contention is that federal planning for KPU programs, including their view of and concern for diffusion and adoption, have, for over a decade, been rooted in what appeared to be a strong rational-logical (but large deductive and nonempirical) underpinning. The apparently unassailable rational base does not fare well in the light of empirical or experimental examination. The limitations of the social science view were holding back development in the field, but the more broadly conceived systems view, although correcting some earlier deficiencies, in turn induced inaccuracies which have provoked breakdowns, hostilities and failures.

Their call is to gain a better understanding of what exists "out there" and to develop a conceptual base that is complete, balanced and realistic. They suggest that this may be best done by taking a "configurational view" which is defined metaphorically as a community-like model or representation of the domain of educational KPU. They suggest that the KPU planners (hence also the educational diffusion policy analysts) would be much closer to descriptive reality if they were to picture an educational KPU community rather than a KPU system. Such a view would suggest, for example, that since few hierarchical relationships exist, the analysis might be better served by concepts and terminology borrowed from community analysis, e.g., "political" and "negotiation" rather than "allocation" and "authority"; or "commitment" rather than "responsibility." The contrast between the systems view and the configurational view is portrayed in Exhibit A-6.

Guba and Clark note that the configurational view assumes that the KPU community encompasses the full range of diverse institutions and individuals involved in education. For policy planning, they propose the six-level classification presented in Exhibit A-7.

Toward the end of their paper Guba and Clark note:

> The very federal agencies that plan for and implement policy and programs in KPU are, of course, themselves members of the educational KPU community. And it would be only fair to point out that they are experiencing frustrations equal to those felt by other community members. They are drastically underfunded. They find themselves in a difficult conflict, for while they are trying to respond to pressures from Congress and OMB for "quick-kill" results through the utilization of sophisticated management practices directed toward criteria of prudence and efficiency, and for evidences of impact on schools, they are simultaneously under pressure from the KPU community for more reasonable and realistic institutional behavior. Complicating the entire picture is the use made of the federal KPU agency by the political figure and/or administration appointee who expresses distaste, disinterest or both in all that has gone on before while he or she seeks to imprint the agency's program with a "new" direction.

KEY FACTORS DISTINGUISHING THE CONFIGURATIONAL VIEW FROM THE SYSTEMS VIEW

FACTORS	SYSTEMS VIEW	CONFIGURATIONAL VIEW
Structure	Centralized	Decentralized
Functions	Linked, sequential	Independent, disconnected
Roles	Discrete	Overlapping
Agency Status	Hierarchical	Coequal
Goal Orientation	Known, shared	Emergent, idiosyncratic
KPU Orientation	Primary	Peripheral
Authority–Responsibility	Delegated	Negotiated
Motivation	Extrinsic	Intrinsic
Institutional Behavior	Nomothetic	Transactional
Interaction	Synergistic, permanent	Symbiotic, temporary

> The end result has been, at least in recent years, what seems to be a reinforcing cycle of frustration and failure. To meet the immediate criticism more is promised than can be delivered, setting up what will surely be a negative evaluation in another year or two. Development and progress in educational KPU is too slow and too uncoordinated to ever satisfy many of the governmental gate keepers who affect decisions on funds, policies, and programs. But to pretend that it is otherwise is simply a transitory method for avoiding the problem.
>
> A first step in breaking the cycle has been proposed in this paper. Like it or not a realistic conceptual view of educational KPU will have to be presented to those who decide upon policy in educational KPU. Unless the extant structure of the field is taken into account, and the complexity of KPU as both a social action and scientific enterprise is recognized, there will be no significant progress in the development of a long range effective policy for educational KPU. If the character of the field is employed as a building block, there is at least a possibility that the constituency noted in the previous subsection (the Educational Conference Board) can move to break the cycle of frustration and failure. (op cit., pp. 74-75)

Although some may take exception to the analysis and the proposals of Guba and Clark, it appears that they may have sensed some of the problems now attending the conceptualization of a federal diffusion strategy for education.

In closing this section we briefly note that NIE has commissioned several studies which bear on this topic. The staff of NIE have produced Building Capacity for Renewal and Reform (1973) which defines its view of the status of and needs for KPU in education. Churchill (n.d.) provides a conceptual framework for modeling a national educational R&D system. Paisley and Associates (1975) have updated some of the 1967 NCERD status data on R&D activities and performers. Markley (1974) has provided an interim report on a study of the "normative structure" of KPU in education which may provide an analytical framework for identifying, portraying and monitoring the "public policy regulators" in KPU.

DISSEMINATION, MARKETING, AND DISTRIBUTION SYSTEMS

For clarity, we will define "dissemination" as the flow of informational messages from source to user; "marketing" as the series of events that encompasses market research and analysis, production, pricing, etc.; and "distribution" as the physical movement of products and training processes from the point of original development to user sites.

CLASSIFICATION SCHEMA FOR INSTITUTIONS AND INDIVIDUALS IN THE EDUCATIONAL KPU COMMUNITY

CATEGORIES	COMMON EXAMPLES
Generic Classes Of Agencies	- Local education agencies - Institutions of higher education - State education agencies - Regional educational laboratories - Private research organizations
Clusters Of Homogeneous Agencies	- Council of Chief State School Officers - American Association of Colleges for Teacher Education - Great Cities School Improvement Program
Clusters Of Heterogeneous Agencies	- Council for Educational Development and Research - Teacher centers - School study councils
Individual Agencies	- New York State Department of Education - Chicago Public Schools - Center for Vocational Education - Georgia Southern College
Individuals Within Agencies	- University professor - Public school teacher - SEA staff member - Evaluator in an REL
Clusters Of Individuals Within Or Across Agencies	- National Education Association - American Educational Research Association - American Association of School Administrators

EXHIBIT A-7

CHARACTERIZATION
Defined by a common, primary operational goal(s) which may or may not be KPU-oriented, e.g., operating schools, monitoring educational agencies, effecting change in schools, developing instructional materials
A subset of the generic class (sometimes the entire class) distinguished by a special concern, characteristic, or purpose, e.g., political influence, shared expertise and knowledge, size, type of operational problem confronted by the agency
A cluster drawn from several generic classes and formed to pursue some common purpose or interest, e.g., political influence, operating efficiency or effectiveness, shared expertise
Particular operating agencies with some assigned line responsibility in the American educational system. The overwhelming bulk of such agencies are responsible primarily for the task of educating children and youth.
Particular actors, who may or may not be primarily committed to KPU activity (generally not) are assigned individual roles in any of the individual agencies
Clusters of actors who join together in member associations locally, i.e., parallel to individual agencies, or on a state, regional, or national basis to pursue common interests, e.g., political, substantive or disciplinary and welfare

EXHIBIT A-7 Concluded

School supply dealers may be viewed as pure distributors, even though they may carry out dissemination activities (e.g., via catalogs). The educational publishing industry may be viewed as the major marketing endeavor vis-à-vis schools, colleges, teachers, librarians, etc. The ERIC system, supported by NIE, may be viewed as an almost pure dissemination mechanism.

Occasionally, some educational R&D agencies, like the nonprofit "regional" laboratories, have attempted to carry out total diffusion endeavors - beginning with needs assessment in the school practitioner community and carrying through all the way to delivery of products, training, implementation assistance, evaluation, and monitoring. But generally the delivery system for validated educational alternatives supported by DHEW or NSF has been splintered into a congeries of uncoordinated events.

This Appendix omits discussion of events at the "production" end of the continuum, where early market research has been conspicuously absent or has been conducted belatedly or in an haphazard fashion. The public sector's inchoate marketing efforts have been patched together through utilization of some subset of the following delivery mechanisms:

- Public-domain production and distribution of printed materials through the Government Printing Offices (Rosenau, 1970)
- Accession of documents into nonprofit information system channels such as ERIC, NTIS, DATRIX, SSIE, NEXUS, SRIS, etc.
- Professional publication via journal articles and papers presented at conferences, reprints and yearbooks
- Film, videotape, and filmstrip sale/rental through the National Audiovisual Center
- Course offerings via extension divisions of universities
- Public educational television and radio broadcasting, instructional television and radio within school districts
- Publication of professional texts, monographs, and collections of readings via profit-making publishers
- Actual R&D products released for manufacture and distribution by the educational publishing and media industries (Knowledge Venture Group, 1972; Knowledge Industry Publications, 1971; Rosenau, 1971) and by nonprofit agencies such as Epie Institute, AIT, ADL, PDK, etc.

- Release into profit-making information systems such as DAT, Xerox, University Microfilms, etc.

- Information-sharing through nonprofit consortia such as school study councils, professional organizations, etc.

- Distribution through nonprofit regional information centers (data, papers, etc.) and intermediate agencies (products, processes, training)

- Continuing education offered by teachers' centers, which create or adapt materials and processes according to local needs (Devaney and Thomas, 1975)

- Private consulting firms in education which have offered training

- Pre-service and in-service training of teachers and administrators by universities and by professional organizations

- Technical assistance projects established with federal funds to support diffusion of validated practices and products

- Federally funded nonprofit regional resource centers, such as those for the handicapped

- Federally funded delivery and implementation networks, such as the National Diffusion Network (MDAP, 1975) and the Individually Guided Education Network (McCann, 1975).

- State and federally funded intrastate networks such as those in Texas, Iowa, Pennsylvania, New York, Georgia, etc. - including county education offices, such as those in California (Rosenau, 1975, unpublished).

DECISIONS TO ADOPT/ ADAPT INNOVATIONS

The process of educational decision-making has been depicted schematically for NIE's KPU Factbook (Paisley and Associates, 1975) in the following fashion:

- Processes within the knowledge-using system

  o Need assessment

  o Capability assessment

- o Knowledge searching
- o Exploration of alternative solutions to identified problems
- o Trial implementation of one or more alternative solutions
- o Evaluation of trial implementation
- o Full-scale implementation
- o Systemic restructuring, as necessary, to accommodate change
- o Maintenance of change
- o System maintenance

  Self-criticism
  Training of future professionals
  Arrangements for support.

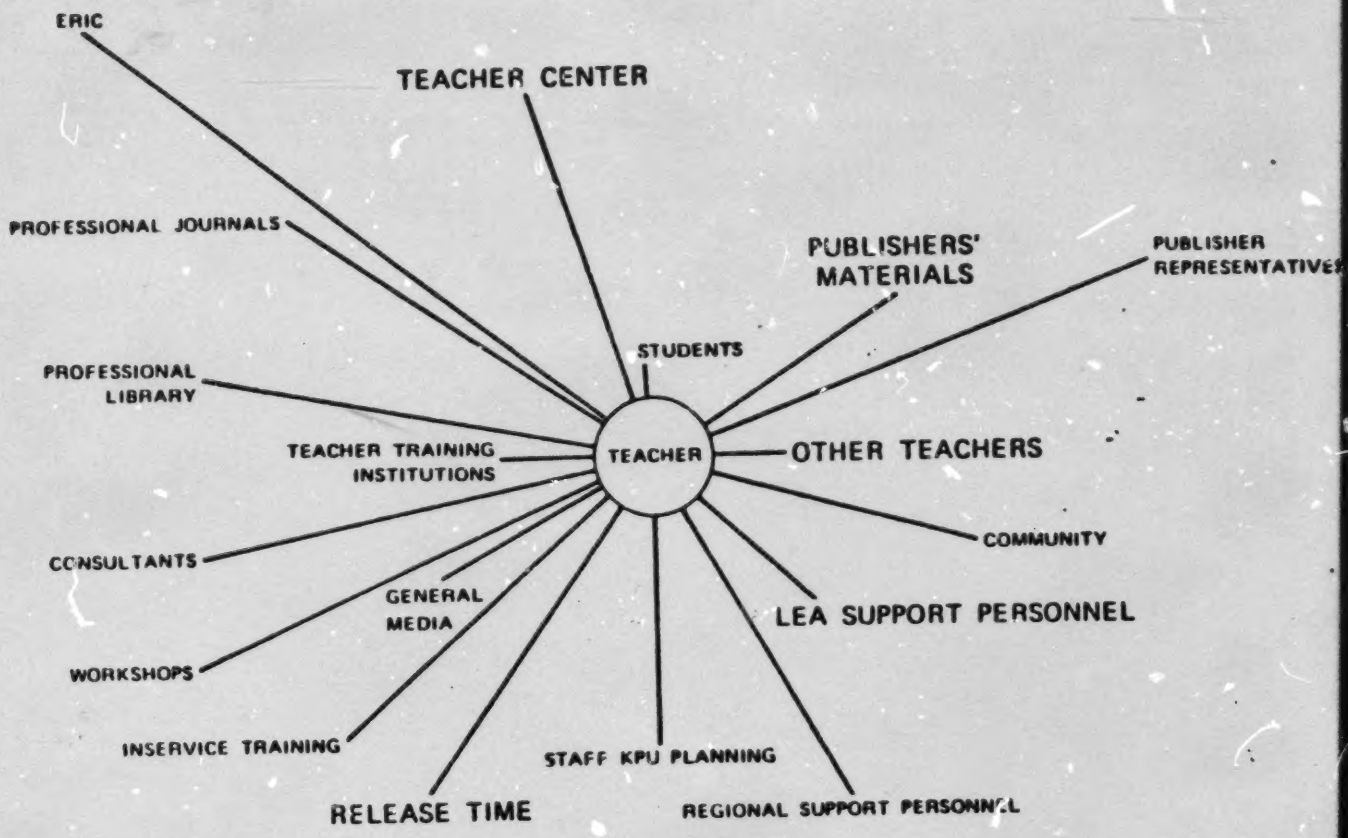
Factors influencing the teacher as decision-maker may be depicted according to Exhibit A-8 (Markley, 1974).

Several studies have attempted to trace exactly how adoption decisions were made - or would be made - in regard to specific innovations (Hutchins and Dunning, 1971; Rosenau, 1971). Several experimental studies now in progress at the Far West Laboratory focus on targeting informational messages to specific audience segments in an effort to affect decision-making processes of educational consumers. Moreover, Hall and his colleagues (1975) have been probing levels of use of innovation, as shown in Exhibit A-9.

Finally, Rand's model (Berman et al., Vol. IV, 1975) of the innovative process has hypothesized three stages in the life of an innovative project:

> Initiation, when LEA officials plan projects and decide which ones to support.
>
> Implementation, when the project confronts the reality of the institutional setting and project plans must be translated into practice. We hypothesize that effective implementation requires mutual adaptation between the project as planned and the institutional setting, in which each must adjust to the demands of the other.

AN AGENT CENTERED SOCIOMETRIC DIAGRAM PORTRAYING
ESTIMATED INFLUENCE OF DIFFERENT KNOWLEDGE SOURCES(a)



NOTE:
Closeness of source to teacher indicates availability of resource, and boldness of lettering indicates significance of influence

(a) for illustrative purposes only; necessary data not (yet) available.

CATEGORIES

ASSESSING	PLANNING	STATUS REPORTING	PERFORMING
Examines the potential or actual use of the innovation or some aspect of it. This can be a mental assessment or can involve actual collection and analysis of data.	**Designs and outlines short- and/or long-range steps to be taken during process of innovation adoption, i.e., aligns resources, schedules activities, meets with others to organize and/or coordinate use of the innovation.**	**Describes personal stand at the present time in relation to use of the innovation.**	**Carries out the actions and activities entailed in operationalizing the innovation.**
Takes no action to analyze the innovation, its characteristics, possible use or consequences of use.	Schedules no time and specifies no steps for the study or use of the innovation.	Reports little or no personal involvement with the innovation.	Takes no discernible action toward learning about or using the innovation. The innovation and/or its accouterments are not present or in use.
Analyzes and compares materials, content, requirements for use, evaluation reports, potential outcomes, strengths and weaknesses for purpose of making a decision about use of the innovation.	Plans to gather necessary information and resources as needed to make a decision for or against use of the innovation.	Reports presently orienting self to what the innovation is and is not.	Explores the innovation and requirements for its use by talking to others about it, reviewing descriptive information and sample materials, attending orientation sessions, and observing others using it.
Analyzes detailed requirements and available resources for initial use of the innovation.	Identifies steps and procedures entailed in obtaining resources and organizing activities and events for initial use of the innovation.	Reports preparing self for initial use of the innovation.	Studies reference materials in depth, organizes resources and logistics, schedules and receives skill training in preparation for initial use.
Examines own use of the innovation with respect to problems of logistics, management, time, schedules, resources, and general reactions of clients.	Plans for organizing and managing resources, activities, and events related primarily to immediate ongoing use of the innovation. Planned-for changes address managerial or logistical issues with a short-term perspective.	Reports that logistics, time, management, resource organization, etc., are the focus of most personal efforts to use the innovation.	Manages innovation with varying degrees of efficiency. Often lacks anticipation of immediate consequences. The flow of actions in the user and client is often disjointed, uneven and uncertain. When changes are made, they are primarily in response to logistical and organizational problems.
Limits evaluation activities to those administratively required, with little attention paid to findings for the purpose of changing use.	Plans intermediate and long-range actions with little projected variation in how the innovation will be used. Planning focuses on routine use of resources, personnel, etc.	Reports that personal use of the innovation is going along satisfactorily with few if any problems.	Uses the innovation smoothly with minimal management problems; over time, there is little variation in pattern of use.
Assesses use of the innovation for the purpose of changing current practices to improve client outcomes.	Develops intermediate and long-range plans that anticipate possible and needed steps, resources, and events designed to enhance client outcomes.	Reports varying use of the innovation in order to change client outcomes.	Explores and experiments with alternative combinations of the innovation with existing practices to maximize client involvement and to optimize client outcomes.
Assesses co-ordinative use of the innovation in terms of client outcomes and strengths and weaknesses of the integrated effort.	Plans specific actions to coordinate own use of the innovation with others to achieve increased impact on clients.	Reports spending time and energy collaborating and others about integrating own use of the innovation.	Collaborates with others in use of the innovation as a means for expanding the innovation's impact on clients. Changes in use are made in coordination with others.
Analyzes advantages and disadvantages of major modifications or alternatives to the present innovation.	Plans activities that involve pursuit of alternatives to enhance or replace the innovation.	Reports considering major modifications of or alternatives to present use of the innovation.	Explores other innovations that could be used in combination with or in place of the present innovation in an attempt to develop more effective means of achieving client outcomes.

SCALE POINT DEFINITIONS OF THE LEVELS OF USE OF THE INNOVATION

LEVELS OF USE	CATEGORIES		
Levels of Use are distinct states that represent observably different types of behavior and patterns of innovation use as exhibited by individuals and groups. These levels characterize a user's development in acquiring new skills and varying use of the innovation. Each level encompasses a range of behaviors, but is limited by a set of identifiable Decision Points. For descriptive purposes, each level is defined by seven categories.	KNOWLEDGE That which the user knows about characteristics of the innovation, how to use it, and consequences of its use. This is cognitive knowledge related to using the innovation, not feelings or attitudes.	ACQUIRING INFORMATION Solicits information about the innovation in a variety of ways, including questioning resource persons, corresponding with resource agencies, reviewing printed materials, and making visits.	SHARING Discusses the innovation with others. Shares plans, ideas, resources, outcomes, and problems related to use of the innovation.
LEVEL 0 NON-USE: State in which the user has little or no knowledge of the innovation, no involvement with the innovation, and is doing nothing toward becoming involved.	Knows nothing about this or similar innovations or has only very limited general knowledge of efforts to develop innovations in the area.	Takes little or no action to solicit information beyond reviewing descriptive information about this or similar innovations when it happens to come to personal attention.	Is not communicating with others about the innovation beyond possibly acknowledging that the innovation exists.
DECISION POINT A	*Takes action to learn more detailed information about the innovation.*		
LEVEL I ORIENTATION: State in which the user has acquired or is acquiring information about the innovation and/or has explored or is exploring its value orientation and its demands upon user and user system.	Knows general information about the innovation such as origin, characteristics, and implementation requirements.	Seeks descriptive material about the innovation. Seeks opinions and knowledge of others through discussions, visits, or workshops.	Discusses the innovation in general terms and/or exchanges descriptive information, materials, or ideas about the innovation and possible implications of its use.
DECISION POINT B	*Makes a decision to use the innovation by establishing a time to begin.*		
LEVEL II PREPARATION: State in which the user is preparing for first use of the innovation.	Knows logistical requirements, necessary resources and timing for initial use of the innovation, and details of initial experiences for clients.	Seeks information and resources specifically related to preparation for use of the innovation in own setting.	Discusses resources needed for initial use of the innovation. Joins others in pre-use training, and in planning for resources, logistics, schedules, etc., in preparation for first use.
DECISION POINT C	*Begins first use of the innovation.*		
LEVEL III MECHANICAL USE: State in which the user focuses most effort on the short-term day-to-day use of the innovation with little time for reflection. Changes in use are made more to meet user needs than client needs. The user is primarily engaged in a stepwise attempt to master the tasks required to use the innovation, often resulting in disjointed and superficial use.	Knows on a day-to-day basis the requirements for using the innovation. Is more knowledgeable on short-term activities and effects than long-range activities and effects of use of the innovation.	Solicits management information about such things as logistics, scheduling techniques, and ideas for reducing amount of time and work required of user.	Discusses management and logistical issues related to use of the innovation. Resources and materials are shared for purposes of reducing management, flow and logistical problems related to use of the innovation.
DECISION POINT D-1	*A routine pattern of use is established.*		
LEVEL IV A ROUTINE: Use of the innovation is stabilized. Few if any changes are being made in ongoing use. Little preparation or thought is being given to improving innovation use or its consequences.	Knows both short- and long-term requirements for use and how to use the innovation with minimum effort or stress.	Makes no special efforts to seek information as a part of ongoing use of the innovation.	Describes current use of the innovation with little or no reference to ways of changing use.
DECISION POINT D-2	*Changes use of the innovation based on formal or informal evaluation in order to increase client outcomes.*		
LEVEL IV B REFINEMENT: State in which the user varies the use of the innovation to increase the impact on clients within immediate sphere of influence. Variations are based on knowledge of both short- and long-term consequences for clients.	Knows cognitive and affective effects of the innovation on clients and ways for increasing impact on clients.	Solicits information and materials that focus specifically on changing use of the innovation to affect client outcomes.	Discusses own methods of modifying use of the innovation to change client outcomes.
DECISION POINT E	*Initiates changes in use of innovation based on input of and in coordination with what colleagues are doing.*		
LEVEL V INTEGRATION: State in which the user is combining own efforts to use the innovation with related activities of colleagues to achieve a collective impact on clients within their common sphere of influence.	Knows how to coordinate own use of the innovation with colleagues to provide a collective impact on clients.	Solicits information and opinions for the purpose of collaborating with others in use of the innovation.	Discusses efforts to increase client impact through collaboration with others on personal use of the innovation.
DECISION POINT F	*Begins exploring alternatives to or major modifications of the innovation presently in use.*		
LEVEL VI RENEWAL: State in which the user re-evaluates the quality of use of the innovation, seeks major modifications of or alternatives to present innovation to achieve increased impact on clients, examines new developments in the field, and explores new goals for self and the system.	Knows of alternatives that could be used to change or replace the present innovation that would improve the quality of outcomes of its use.	Seeks information and materials about other innovations as alternatives to the present innovation or for making major adaptations in the innovation.	Focuses discussions on identification of major alternatives or replacements for the current innovation.

Procedures for Adopting Educational Innovations Project. Research and Development Center for Teacher Education, University of Texas at Austin, 1975, N.I.E. Contract No. NIE-C-74-0007.

Incorporation, when the innovative practice loses its "special project" status and becomes part of the routinized behavior of the district. In this phase the project may be continued in whole or in part as a result of deliberate district decisions, or aspects of the innovation may be incorporated by individual teachers with or without formal district support.

OBSTACLES TO ADOPTION AND USE

Sikorski and Hutchins (1974) have provided a useful discrepancy model that helps explain why so many validated educational innovations have been less widely adopted and utilized than their sponsors and developers had anticipated. They assert that "change will not occur if there are discrepancies between the potential user and the requirements of a product" (p. 10). Thirty-four of the potential discrepancies are set forth in Exhibit A-10.

According to Turnbull et al. (1974), obstacles can be subsumed under such categories as:

- Development -

  Not all developers have adjusted to two facts about potential users: they may prefer not to change their behavior, and they may wish to make adaptations in a product.

  Many developers are falsely led into believing that their products will "sell" because of the favorable opinion of field-test subjects AFTER having used the product.

  Developers tend to assume that their products are operationally self-sufficient, and field tests are not always set up so as to reveal operational problems.

- Diffusion -

  The fact that a product has come from a research and development effort does not automatically increase user demand.

  Distance - either psychological or physical - between developers and disseminators has frequently hampered the diffusion of a product.

  The importance of incentives offered to the salesmen, intermediate agents, or others responsible for dissemination, distribution, training, and installation has frequently been overlooked.

LIST OF POTENTIAL DISCREPANCIES FOR ADOPTION/IMPLEMENTATION

NEEDS	INCENTIVES	PHILOSOPHY
Discrepancies between the user's needs and the needs addressed by the product	Discrepancies between the support or justification desired or required by the adopting system and that which is available	Discrepancies between the general philosophical orientation of the adopting system and the nature of the product
Target group addressed	Early/late knowledge of results (feedback)	Sequential/nonsequential curriculum
Complete/supplementary	Priority (how product relates to user)	Structured/unstructured curriculum
Horizontal/vertical (for one grade level or for more than one)	High/low probability of outside funding support	Programmed/nonprogrammed
Type of effect (outcome, what it does)	Peer opinion (how others feel about the product)	Theoretical basis
Subject matter	Bandwagon (influence of other adopters)	Self-sufficiency (teacher-proofness)
Product (process, an object or a way of doing things)		Developer (acceptability of developer)
		Type of evaluation

LIST OF POTENTIAL DISCREPANCIES FOR ADOPTION/IMPLEMENTATION

(Conclud ed)

RESOURCES	ADOPTION CONVENIENCE
Discrepancies between the material, human, and temporal requirements of the product and the resources of the user	Dis spancies between the state of the adopting system and what will be required to easily adopt/ implement the product
Financial cost (includes initial and maintenance, equipment, release time, etc.)	Core/elective subject (is it an established part of the curriculum?)
Materials required	Purchase accessibility
Physical space	High/ low den nstrability
Time	High/ low adaptability
Personnel required	High/low divisibility
Administrative arrangements	Unit of adoption (who must decide)
	Reorganization required
	Training required
	Disruptiveness
	Information accessibility

Simple awareness-oriented advertising efforts are generally not sufficient to lead potential users to purchase a product.

Demonstration projects are not the easy panacea that some have thought them to be.

Insufficient attention has been given to the cost effectiveness of dissemination efforts.

- Implementation -

Many, if not most, of the products of R&D demand training for users, but this is not always recognized early enough.

Once the novelty of innovation has worn off, many products have no built-in incentives for continued use.

The Rand group (Greenwood et al., 1975) also caution that:

> The projects that were characterized by simple opportunity-based behavior also generally lacked the commitment and support of local district administrators. In the projects we observed, this support was not subsequently generated during project implementation, despite project accomplishments. The frequent result of this lack of district-level support and commitment was that the project staff failed to take the project goals and objectives seriously, morale suffered, implementation floundered, and significant change seldom occurred.

They conclude as follows (Berman and McLaughlin, 1975):

> Our data show that a receptive institutional setting is a necessary but not sufficient condition for effective implementation. An implementation strategy that promotes mutual adaptation is critical.
>
> The main factors affecting innovations were the institutional setting, particularly organizational climate and motivations of participants; the implementation strategy employed by local innovators to install the project treatment; and the scope of change implied by the project relative to its setting. Neither the technology nor the project resources nor the different federal management strategies influenced outcomes in major ways. Thus, project outcomes did not depend primarily on "inputs" from outside but on internal factors and local decisions.

One additional view, from a marketing perspective, of the difficulties inherent in delivering innovative products/processes is provided in Exhibit 1. It attempts to summarize the commercial sector's presumed interest in negotiating for production and distribution rights to validated R&D output.

CONDITIONS ENHANCING ADOPTION

In a comprehensive handbook on "Tactics For The Educational Change Agent" (Rosenau, 1974) are compiled a series of admonitions and suggestions for those engaged in promoting educational change. Similarly Sieber (1973) has provided a set of sensible recommendations for those employed in educational extension systems. McCann (1975, unpublished) has proposed a set of strategies for cooperative diffusion efforts by nonprofit R&D agencies.

Turnbull et al. (1974) suggest that successful utilization of R&D products can be enhanced if these notions are attended to:

> Innovations seem to have the greatest prospect for success when they involve a tangible "product" coupled with provision for training.
>
> The meaningful involvement of potential users is an important factor in a successful product design.
>
> Developers can gain valuable information if they seek the reactions of buyers and facilitators, as well as users, when field testing their products.
>
> The design of a product should carefully consider how the key "linkers" will be involved and what incentives can be tapped to activate and maintain their relationship.
>
> Helping potential adopters locate money for a product has had good results.

Another set of variables that seem important in the specialized work of facilitating adoptions may be deduced from A Casebook Of Selected State Facilitators (MDAP, 1975), which considers such dimensions as:

> Population density of area served, geographical location, previous experience of project staff in dissemination/diffusion, level of funding, size of staff, relationship of project to the State Education Agency, level of involvement in the National Diffusion Network proceedings, and type of operational strategy employed.

A Magi Educational Services report (1975) suggests that the most successful facilitators of educational change are "more highly oriented toward the future and to... long-range goals," and are focusing less on "...day-to-day operations." The same study indicates that the most successful developed "had spread the resources of time, money, and effort over the whole range of diffusion-adoption activities."

In terms of implementation, Greenwood, Mann, and McLaughlin (1975) found that strategies that fostered mutual adaptation were most likely to lead to significant change in school practice. Specifically:

> Successful project implementation was found to be related to the type, not to the amount of project planning. "On-line" project planning that was an ongoing process permitting frequent reassessment of project methods and goals was found to be the most effective.
>
> The more training given project staff, the better. Pre-service training, combined with in-service training, was found to be particularly important to projects expecting staff to implement the far-reaching changes embodied in projects such as the classroom organization projects.
>
> The most effective training took the form of very concrete "how-to-do-it" workshops given by local personnel. Outside technical assistants were generally not effective in the training role.
>
> Frequent, regular meetings of project personnel facilitated project implementation. They provided a forum for discussing project problems, sharing ideas, and promoting staff morale.
>
> The local development of project materials, as opposed to the utilization of commercially prepared systems, appeared to contribute to project implementation and the amount of change achieved. Local development provided an opportunity for "learning by doing" as well as a sense of identification with project goals and more thorough understanding of precepts.
>
> Intangible professional or psychological incentives were more effective in soliciting teacher cooperation and involvement than were more tangible incentives such as extra pay, credit on the district salary scale, and the like. Similarly, projects staffed by volunteers were more likely to be successfully implemented.
>
> Elementary school projects were typically more successful than high school or junior high school projects.

COMPARATIVE DISTRIBUTOR INTEREST

TYPE OF MARKET	DEGREE OF INTEREST	SELECTED CHARACTERISTICS OF INNOVATION										
		FIT WITH USER GOALS	IMMEDIATE USER NEED	EXISTING DISTRIBUTION CHANNEL	GOOD ECONOMIC CLIMATE	PROFIT TO DISTRIBUTOR	EASY TO PROMOTE/SELL/DELIVER (a)	LONG COPYRIGHT TERM	LOW COST PER PUPIL	LITTLE USER ORGANIZATIONAL CHANGE	LITTLE TEACHER BEHAVIOR CHANGE	LOW-COST INSERVICE TRAINING
MASS MARKET	YES ↓											
THIN MARKET	↓ NO											

(a) Note that an R & D agency may have stringent requirements re: packaging, user options, etc. that complicate distributor's task (e.g., product "must" be sold as total package in order to be effective), whereas user might prefer to sample bits and pieces, adapting these to local programs-

EXHIBIT A-11

Project success was more likely where participants formed a sufficiently large group (a "critical mass") to provide mutual support and share ideas.

District and project personnel experience with innovation generally and/or with the specific new practice to be implemented facilitated project implementation.

The existence of other innovative projects in the district sometimes detracted from the attention paid a given project and thus its chances of success.

Strong administrative support from all levels of the system appeared to be essential to successful project implementation.

A flexible administrative approach and open communication channels were typical of projects that were able to deal effectively with the unanticipated events that occurred in the course of an innovation.

Significant classroom changes were more likely to occur when staff were provided with ongoing administrative or technical help from local resource people that complemented the training or materials development phases of the project.

ORGANIZING AND MANAGING THE DIFFUSION PROCESS

Sikorski (May 1975) has pointed out an array of indicators that must be attended to by any manager seeking to effect meaningful educational change, even though successful implementation seems to require capabilities and motivation not typically found in the schools themselves. She states that, though systematic planning and evaluation are critical for educational change, the findings in those areas are uneven:

As regards planning, Widmer (1975) reports that for Massachusetts Title III projects, continuance and the existence of an initial needs assessment were not related. Schools which carried out needs assessments did not seem to benefit from them.

Crandall (1974) reports that planning doesn't always facilitate change and that, in fact, it may be used to postpone making an action decision.

The suggestion here is that planning is not automatically helpful that it must be streamlined and effective. Very likely the finding reported by Widmer (1975) regarding needs assessment is due to the fact that where needs assessments were conducted they were done to justify rather than prescribe the "solutions" represented by the innovations being adopted...

Havelock's (1974) survey of superintendents finds a slightly negative relationship between innovations and evaluation. Miller (1974) reports for Title III projects in California that less money allocated to evaluation related positively to project continuation. Havelock speculates that evaluation may serve to dampen the innovative spirit when it documents the limited immediate impact which is characteristic of curriculum innovations. If this is in fact occurring, it can probably be attributed again to poor planning, to the failure by planners to anticipate outcomes realistically, and to prepare participants accordingly.

Pincus (1974) cites the inflated expectations for short-term "experimentation" with educational innovation as a chief reason not only for failure, but for the perpetuation of resistant postures on the part of school personnel.

Glass (1975) discusses another serious problem with evaluation, one he calls "evaluation anxiety." He points out that efforts which should be directed toward installing and implementing innovations may instead be spent in developing defenses. Again, a function for planning is to prepare for and accommodate evaluation, and part of this involves developing constructive and realistic attitudes as well as designing evaluation which is oriented to improving rather than dismantling new systems.

This brings us to a key factor in effective planning and evaluation, which is the early and meaningful involvement of those who will implement change.

Innovation is facilitated by the meaningful and early involvement of those who will implement change and it is seriously hampered when participants are not involved. (Fullan and Eastabrook 1973; Widmer 1975; Turnbull et al. 1974; Havelock 1974; Miller 1974; Lin et al. 1966; Schmuck et al. 1971; Pierce 1974.)

The promoter of change must also consider factors associated with organizational structure. Baldridge (1974) suggests that structurally complex and large-size organizations generally are more innovative, i.e., adopt new programs and practices more often. Complexity here refers to the number of specialized units, administrative positions, and organizational subsections, and size and complexity are closely related.

He explains that size and complexity are indicators of the school's capability for absorbing change. This is consistent with the first part of this discussion, which implies that schools which can, do, i.e., that capability for innovation is associated with innovation.

Baldridge's discussion goes on to suggest that structural complexity in schools should be increased, to make them more receptive to change.

However, Zaltman et al. (1973) review studies which show that while organizational complexity favors the adoption or initial acceptance of innovations, more complex organizations have less success implementing change. This jibes with Havelock's (1969) description of complex division of labor as an "inhibitor" of knowledge flow in organizations. Zaltman et al. explain that the decentralization and specialization which allow innovations to more readily permeate system boundaries, act against the innovation being able to easily fit existing patterns; further, they suggest that guidelines provided through clear structure and authority are needed by participants in a novel situation. They present evidence that formalization, or the clarity and comprehensiveness of rules and regulations, is positively related to implementation (although negatively related to adoption). This is consistent with Robertson's finding that programmed innovations are more often successfully implemented.

This is also supported by Deal's (1975) case studies of alternative schools. He found that the reason for crisis and failure of these arrangements lay in their disruption of established authority patterns. Those schools which ultimately succeeded were the ones which adopted an authority structure with role clarity and a definite division of labor. Where the initial structure had been, "do what you please," the new structure was, "do what you and I have jointly established."

Baldridge's (1974) report of a New York case study includes the finding that clear-cut authority structures facilitated change. Havelock (1969) describes clear authority patterns as a "facilitator" of knowledge flow in organizations.

Sikorski (May 1975) summarizes the management challenge in these words:

The factors associated with the success or failure of curriculum innovation have generally to do with aspects of capability and motivation, particularly as regards change planning, and with aspects of organizational structure. To increase receptivity of school systems, change managers have used the tools of training and organizational development, incentives, and linkages.

APPENDIX B: REVIEW AND SUMMARY OF THE LITERATURE ON MARKETING PRACTICES USED BY LARGE DIVERSIFIED BUSINESS ORGANIZATIONS

The purpose of this appendix is to present information on the marketing practices used by large, diversified business organizations. These organizations share the following general characteristics:

- They produce and distribute a relatively large number of different products.
- They serve a relatively large number of markets and market segments.
- They are organized in a decentralized manner, according to product lines or groups.
- They experience more or less continuous change in the size, nature and product needs of some or all of the markets they serve.

As a result of these common characteristics, these organizations must perform a number of basic functions to ensure that they are properly related to the markets they serve and to facilitate their responsiveness to changes in these markets. These basic functions - termed the marketing functions - are organized and conducted in different ways by different businesses, depending upon markets served, products produced, technology, management philosophy, history, and a number of other variables. These different patterns of marketing organization and execution are reviewed and summarized in this appendix.

The Education Division of the Department of Health, Education and Welfare shares some of the characteristics of large, diversified business organizations. Serving a relatively large number of different target groups, the Division produces and distributes information, products and services in more than 100 program areas. The Division is organized in a decentralized manner, with most program management, budget, and personnel authority delegated to the Director of the National Institute of Education, the Commissioner of Education, and, in turn, to the deputy commissioners heading the several bureaus within the Office of Education. In the distribution of education and R&D products and services, the Division's role is limited by the assignment of constitutional authority for education to the States and, by delegation to local school districts. In most cases these direct providers of education services are free to accept or reject products or services developed in the Division's programs. While the Division has a legislative mandate to stimulate the renewal and reform of American education, the Division can only be successful in disseminating products and services where states and localities demonstrate strong demand and a willingness to adopt and implement the Division's products. Thus, the Division faces the need to perform some of the same basic marketing functions carried out by large, diversified business organizations.

These functions will need to be performed differently in the public sector. Thus, private sector practices may not always provide a useful guide to the Education Division. However, of the many aspects of marketing practices employed by the private sector, those relating to the organization of marketing

functions are likely to be most relevant for the Education Division's consideration. Alternative patterns of organization developed by the private sector to structure and control the performance of marketing functions will be useful to the Division in approaching the task of assigning responsibility for the performance of specific dissemination functions. For this reason, issues related to marketing organization are treated in greater depth than are other aspects of marketing practice. In large part, the marketing techniques developed by the private sector follow from the principle of orgarizing for marketing, that is, organizing the enterprise around its relationship to key markets, rather than organizing for production, finance, research or some other basic function. This Appendix is divided into two parts:

- Marketing functions
- Marketing organization.

A - MARKETING FUNCTIONS PERFORMED BY LARGE DIVERSIFIED BUSINESS ORGANIZATIONS

The marketing functions described in this section are as follows:

- Communication
- Distribution
- Market analysis
- Market segmentation
- New product planning and development.

COMMUNICATION

The purpose of the communication function is to direct the dissemination of information about particular products or services. Communications programs are designed to ensure that potential consumers are aware of the product's existence and of how the product can be used to meet the consumer's needs. Communications programs then seek to encourage the consumer to use the product on a trial basis and ultimately to adopt it on a permanent basis.

Traditional communications or promotional techniques include direct personal selling, advertising, distribution of product samples, participation in trade shows, product demonstrations, and general public relations activities. Communication is performed either solely by the producer or in concert with organizations responsible for distribution of the product. Usually a variety of communications techniques are used jointly in a "communications mix" to promote knowledge of a given product or service.

The particular mix used to promote knowledge of a product is chosen on the basis of characteristics of both the market and the product. The key function of market analysis, described in a subsequent section, is used to determine the characteristics of the market, the nature of the prospective user's information needs, the information needs of the purchase decision-maker, and by what mix of communications techniques this decision-maker can most effectively be reached. Thus, a producer of specialized industrial equipment can identify a small target population potentially interested in the product. Here the purchase

decision-maker might be a highly trained specialist, such as an engineer, whose decision to purchase will be based on the product's technical specifications. The equipment producer would therefore formulate a communications strategy aimed at this specific market segment, providing complex, personal, individualized information to trained specialists at their place of work. This strategy would be implemented using a direct sales effort by a technically-trained sales staff.

The communications strategy is also dependent on the characteristics of the product. A simple product, similar to other widely accepted products, can be promoted using mass media or relatively untrained sales personnel since the information needs of the target market are relatively low. By contrast, a complex product requires a more individualized, technically-oriented communications approach, such as direct selling by personnel who are trained in the use of the product and who are familiar with the purchaser's operations and information needs.

If the characteristics of the market and product, and the resulting information needs of the decision-maker, are such as to require direct, technically-oriented selling, the communications strategy takes on some aspects of a teaching process. The customer must be informed of the benefits of the product and taught how to use it. A simple explanation of the product's operation and advantages will usually not suffice to secure even a trial of the product, especially if the customer is already using a similar product. To get a customer to adopt a new or competing means changing his behavior - a process which requires time, repetition, and technically-qualified sales personnel.

The task of selecting the ingredients of a communications mix is generally given direct attention by the organization's senior marketing executives. If it is decided that a direct sales staff is to be used, this staff is normally organized into a separate department reporting directly to the senior marketing officer. If advertising is the primary communications technique, an advertising department is created under this officer.

Once chosen, the communications strategy is monitored and periodically reevaluated to ensure that the necessary information is being communicated to the appropriate people by means of the most effective techniques. The communications program is evaluated as an ongoing element of market research and analysis. Through sampling techniques, a representative portion of potential customers are surveyed to determine whether they are aware of the product, what their attitudes toward the product are, whether they actually have the ability to decide on use or purchase, and the level of their current or forecasted use or purchase of the product. Results of this sampling are used to create new communications programs. If it is determined that existing products fail to meet market needs, survey research can assist in developing new products, as discussed in a subsequent section.

New communications programs, once developed, are tested prior to implementation. An example of the impact of communications strategy on the acceptance of new products is provided by the pharmaceutical industry. The Soviet newspaper PRAVDA has criticized Soviet physicians for their failure to

use new drugs. However, the only information they receive on new medications is through mail and scientific journals. Since few doctors in any country have time to read, and since they need specific information on how a complex drug works on specific symptoms, U. S. pharmaceutical manufacturers rely mainly on trained sales personnel to promote their products directly to physicians. Thus, the method and quality of communications impacts directly on the product's degree of market acceptance.

DISTRIBUTION

Distribution systems are designed to ensure that a product is available where consumers want it and expect to find it. The distribution system also provides for customer service in cases where this is necessary for successful marketing. While market research can identify distribution patterns for similar products, following these patterns does not guarantee effectiveness, particularly in heavily saturated markets.

The most commonly employed patterns of distribution are the following:

- Direct distribution from the manufacturer to markets
- Indirect distribution with a wholesaler linking the manufacturer to markets
- Mixed distribution systems using elements of both the direct and indirect patterns.

Distributors or wholesalers are selected to serve the market segments of greatest interest to the manufacturer. The chosen distributor is able to provide the level of technical information and assistance required by the market, and is also conditioned to rely on support from the manufacturer in areas where additional technical expertise is required.

MARKET ANALYSIS

The purpose of market analysis is to identify and describe the nature of demand for a particular product, and the nature of the decision process leading to purchase or adoption of the product. It is necessary to determine where in the customer's organization, and, on what basis, this decision is made. Market analysis then seeks to assess the information needs, service needs, and psychological needs of the customers in a given market segment. This information is used to design communications, distribution and service strategies to serve the market. Market analysis also reveals the characteristics and purchasing ability of individual customer groups so that product designs can be simplified or elaborated for given market segments.

The task of market analysis is generally assigned to a separate marketing research department which is responsible for research design, execution, statistical analysis, and interpretation. This department generally makes extensive use of the knowledge gained by field sales personnel through their contact with customers. Market analysis reveals opportunities for the development of new products as well as for the improvement of communications and distribution techniques.

MARKET SEGMENTATION

Following the determination of which major markets will be served comes the process of market segmentation, which serves to delineate more clearly the precise elements of these markets which the organization can serve most effectively. The purpose of market segmentation is to identify within a larger market smaller, homogeneous groups having specialized characteristics and capable of being served by a uniform mix of product, communications and distribution elements. The identification of homogeneous groups of customers is frequently executed on the basis of demographic or psychological characteristics, in the case of individual consumers, and on the basis of industry groups, organization size, or place in the production process for industrial consumers.

The function of market segmentation is generally assigned to a specialized marketing research department, under the direct leadership of the chief marketing officer of the organization.

NEW PRODUCT PLANNING AND DEVELOPMENT

Continuous scanning of the market to identify opportunities for new products is the marketing counterpart to the research and development function of the organization. This function is performed through analysis of discrete market segments. The potential customer is viewed as having a series of problems to be solved. These problems are analyzed with a view to the identification of opportunities for new products.

Alternatively, given an idea for a new product, the product concept must be evaluated in terms of customer behavior and the product's adaptability to this behavior; the cost of producting, distributing, and servicing the product; and other factors. In the course of this analysis, the original product concept may be modified numerous times and perhaps ultimately scrapped.

Critical to the market analysis for a new product is the evaluation of any behavior changes the product will require on the part of the customer. In industrial markets, this evaluation must consider whether a new product will require changes in a customer's production process or operations. If such changes will be required, the customer's willingness and ability to change must be assessed. It must be determined who in the customer's organization has the leverage to bring about such changes, should they appear warranted. An organization's purchasing agent is rarely interested in a product that will overhaul and streamline his company's entire production process, because he has no authority to make such changes. Market analysis for a new product may indicate the need to reorient communications efforts toward a different organization level or audience within the target market segment.

Once the new product planning and development function has identified the market for a product, specified the product's characteristics (price performance, operating costs, service requirements, etc.), and identified the target audience,

there is a basis for selecting communications, distribution and service strategies in order to formulate an overall marketing plan for the product. If the product is simple, such as toothpaste, and there is a large and receptive consumer market, then the indicated strategies include mass advertising, distribution through supermarkets and drug stores, and no provision for service. If the market is a smaller, industrial group, the product is complex or difficult to install, and constant service is necessary, then the indicated approach includes promotion through a trained sales force with direct distribution through channels possessing capability for technical service and support.

Frequently organized into a separate department, the new product planning and development function monitors the research and development function to ensure that research activities are related to market needs and trends, and that in the development of specific products, cost and performance specifications are met. There is thus a further need to link organizationally the functions of new product planning and market analysis. As a result, these two functions are usually lodged in parallel departments reporting to the same senior marketing officer.

B - MARKETING ORGANIZATION IN LARGE DIVERSIFIED BUSINESS ORGANIZATIONS

A variety of techniques have been developed to organize, coordinate and control the performance of the marketing functions described in the preceding section. The general principal underlying most patterns of marketing organization is that the needs of the marketplace should dictate the selection of organizational form. Analysis of the needs of present and potential customers should determine the work needing to be done at the lowest organizational level. From this analysis, the management organization necessary for coordination and control of that work is then constructed. Finally, the marketing organization is adapted to the organization of the total enterprise to achieve an integration of all functions - manufacturing, engineering, research, finance, purchasing, transportation, etc. Where it was once common to determine corporate organization on the basis of production techniques, the trend toward market-oriented patterns of organization now frequently influences the overall corporate structure. While the general concept of decentralization is still accepted as the only way to manage a large, diversified business, the organizational building block of the decentralized structure is now more likely to be the market-centered division or group, instead of the division based on geography, products or production processes.

The principle of decentralization calls for a central headquarters or corporate unit and a number of divisions. In some of the largest organizations, certain divisions or subsidiaries are further combined into groups, placing a second level of administration between the divisions and the headquarters unit. This latter structure is shown in Exhibit B-1. Divisions and groups are usually organized around product lines. Each division is a relatively self-contained unit, with its own marketing, sales, manufacturing, finance, control and personnel functions.

Given the importance of marketing to the modern business organization, large enterprises assign overall responsibility for marketing to a position such as vice president for marketing at the corporate staff level (see Exhibit B-1). The duties of this position include planning, coordinating and supervising the marketing efforts of the decentralized groups and divisions, which have their own marketing units. These marketing efforts, at whatever organizational level, are structured according to one of the following approaches:

- Functional organization
- Product management
- Market management
- Regional management
- Matrix management.

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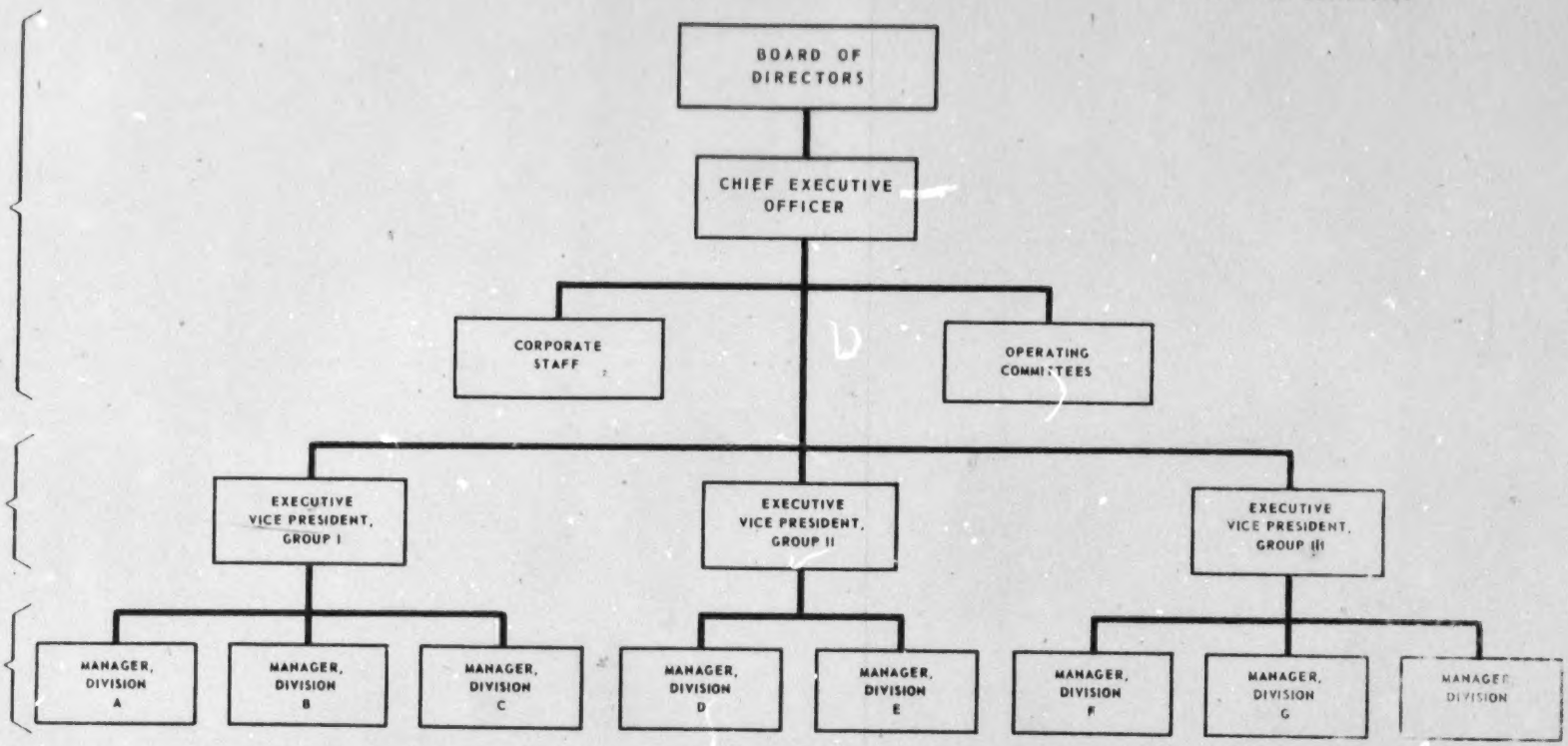
FRAMEWORK FOR DISSEMINATION
GENERAL PATTERN OF
ORGANIZATION IN LARGE,
DIVERSIFIED BUSINESSES



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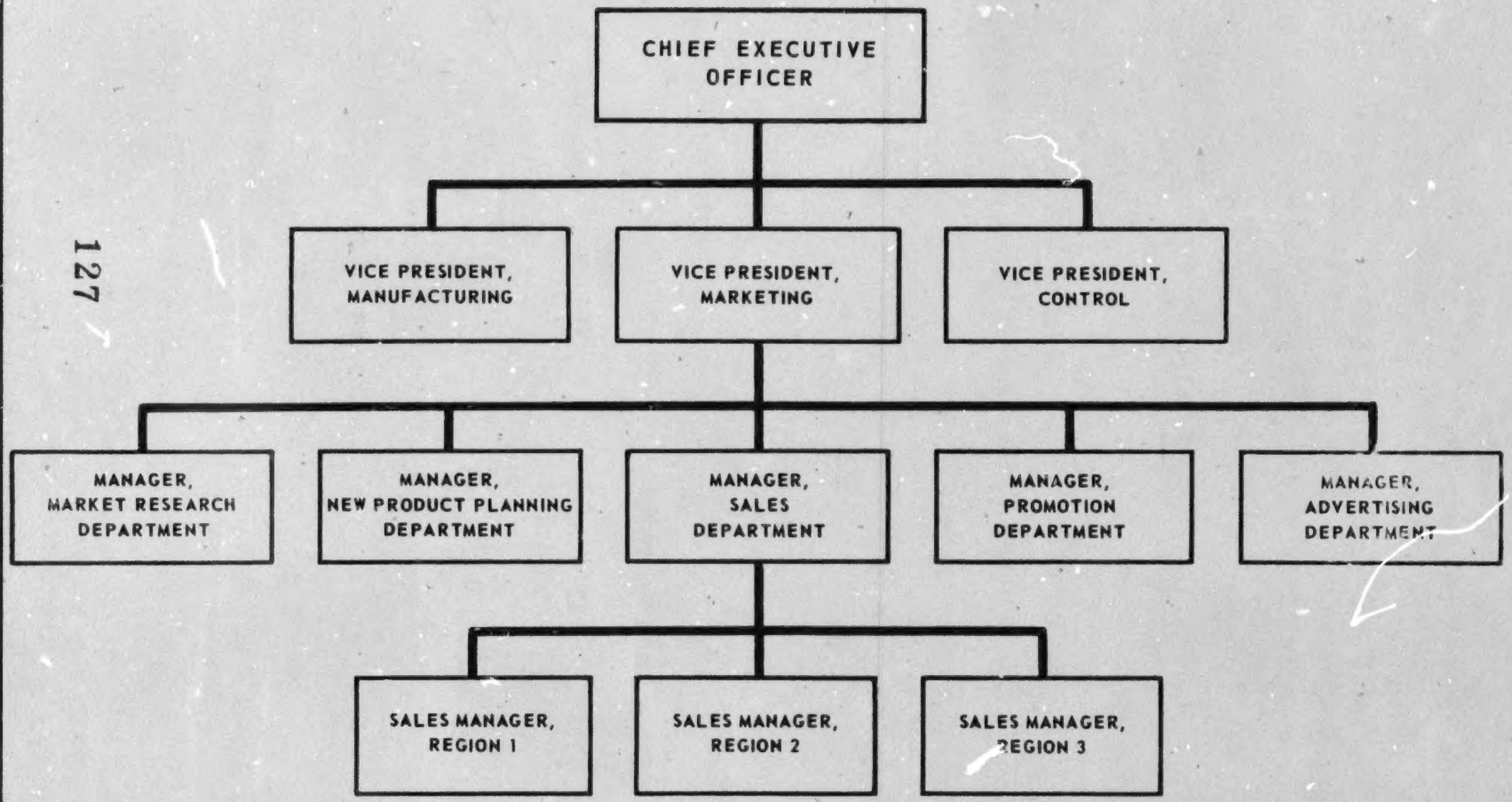
EDUCATION DIVISION

FRAMEWORK FOR DISSEMINATION: FUNCTIONAL MARKETING ORGANIZATION IN LARGE, DIVERSIFIED BUSINESSES



FUNCTIONAL ORGANIZATION

In a functional marketing organization, each of the marketing functions (market research, sales, advertising and new product development) is placed in a separate department, and all report to the same executive. This pattern is used in divisions which depend on a relatively small number of products serving few markets. In this situation, a single executive can coordinate the marketing functions, plan a division-wide marketing strategy, and secure approval of these plans by other members of the division's management team.

The functional organization is also used by the corporate or group marketing staff to support the efforts of the division marketing departments. For example, the corporate market research department could perform a service and coordinating role for the market research departments of the divisions. Or it could focus on performing the market research function for new products, while the division market research concentrates on current marketing problems. The corporate marketing staff could also serve new or small divisions unable to support a self-contained marketing unit. The functional marketing organization is shown in Exhibit B-2.

Problems develop in a functional marketing organization when it is successful - when its product lines expand or there is an increase in the number of markets served. Ultimately, the vice president for marketing is stretched too thin to manage the growth and development of all product lines or markets. At this point, a new marketing structure, such as product management, becomes appropriate.

PRODUCT MANAGEMENT

The product management approach is now the norm for multi-product, consumer good companies. As products proliferate, it is customary to add to the functional marketing organization product managers responsible for coordinating the various functions that go into making each product a success in the market. His role is generally described as that of "staying close to the market." The product manager plans, coordinates and evaluates the functions of research and development, manufacturing, and marketing, yet he has no authority over those functions.

The product management approach is used in companies characterized as follows:

- There are numerous products or product lines.
- The company operates in few markets.
- The same promotional technique is used for all products.
- Channels of distribution are the same for all products.

The product management system is used throughout the pharmaceutical industry, which is dominated by large, diversified organizations. In most cases, the pharmaceutical market is served by a single division of the organization. While this division produces many products, all are addressed to a single market, with promotion only to physicians and sales solely to

pharmacies, hospitals and clinics. The same promotional techniques are used by all product managers - detailing, sampling, advertising, and direct mail. Channels of distribution are likewise the same - direct distribution and reliance on wholesalers.

As the product management organization develops, it tends to become highly formalized and bureaucratic. The chief marketing executive is unable to provide direct supervision for all product and functional marketing managers. Product managers, in turn, need to add assistant product managers to monitor a part of the product line or to focus on a key functional area such as the analysis of alternative promotional mixes. The highly developed product management organization is shown in Exhibit B-3.

The specific duties of the product manager include the following:

- Prepare annual volume and profit objectives
- Prepare promotional plans to achieve objectives
- Obtain plan approval from senior marketing officer
- Coordinate execution of the plan by functional units of the organization
- Monitor and evaluate results throughout the year
- Recommend changes in plan or product development activities to improve future performance.

In order to accomplish these duties, the product manager works closely with the specialized functional departments such as market research, promotion, and advertising. The product manager spends most of his time with that aspect of his product or market that is most critical to the product's successful performance. In a consumer goods company, a product manager is often most concerned with improving the effectiveness of mass promotional techniques, such as television advertising. He might also be concerned with product style or, on low-margin products, with cost control. In the industrial company, where products tend to be technically more complex, and where promotion and information dissemination are conducted primarily through direct, face-to-face selling efforts, the product manager will be concerned more with sales force training, sales management, and technical service. Although the product manager has no authority over the sales manager or sales force, he ensures that they fully understand the product and its impact on the customer's operations. The industrial product manager usually competes with the other product managers in his division for the time of the sales force, since a division may have many products but usually only one sales force.

A number of problems are encountered with the product manager organization. The tenuous poisition of the product manager - responsibility without authority - can lead to frustration and a lack of accountability for results. Since successful product managers move upward into marketing management, and since ineffective ones are not retained, there tends to be high turnover in the position, resulting in a loss of knowledge and experience. This lack of continuity is partially offset by the relative permanence of the functional marketing staff, who accumulate experience on product and market developments.

The product manager's commitment to and identification with his product may also be a problem if he therefore fails to perceive opportunities for a changed or new product. The role of the senior marketing executive is to decide which current and new products offer greatest potential, and, in approving or altering plans submitted by the product managers, to allocate scarce marketing and promotional resources among competing products. Because of the product manager's focus on protecting his current product, the function of new product planning and development is placed in a separate department under the direction of the division's senior marketing manager.

Given these problems with the product manager organization, there are circumstances in which it is not used. One such situation occurs when an individual product or product line is of primary importance to a company. In order to protect this product's position, a separate division is formed, often with its own sales force. Another such situation exists when a company has several product lines of low volume and limited future prospects. The potential contribution of these products does not justify the cost and complexity of a product management system. Nor would a company or division whose products are few in number but addressed to diverse markets involving different uses of the same product, different promotional approaches or information needs in different markets, or different distribution systems for each market, operate effectively with a product management form of organization. Since the product manager is oriented toward his product, he finds it difficult to understand and control the large number of promotional and distribution requirements of the diverse markets in which his product competes. In these cases, the preferred organizational approach is market management.

MARKET MANAGEMENT

The market management approach is used where a company has an essentially homogeneous or at least closely related line of products which appeal to different segments of the market. This is most frequently the case with producers of industrial products or equipment. Their customers

usually have unique needs or unique purchasing requirements so that the product, promotional information and approach, and distribution must be adapted to each customer or market segment. The marketing manager, with his orientation toward the market, gives full attention to his customer segment and seeks to adapt the practices of his organizational counterparts to satisfy his customers. As a result of the market manager's efforts, new product ideas and product modifications are more frequently generated.

The market management form of organization is also a useful one when a company or division is seeking to enter new markets with an existing product line. Other situations in which this form is appropriate include:

- Customer needs are changing rapidly.
- Rapid technological change provides the potential for new solutions to customer needs.
- The products or customer needs are so complex or unique that the company must provide the customer not only with a product but also with a personalized system of use and implementation.
- Procurement and contracting procedures are unique, as in the case of governmental organizations.

The market manager is equipped to recognize his market's unique decision-making techniques, information requirements, and behavioral characteristics. The responsibilities of the market manager are to plan, coordinate, and evaluate the division's service to the target market for which he is responsible.

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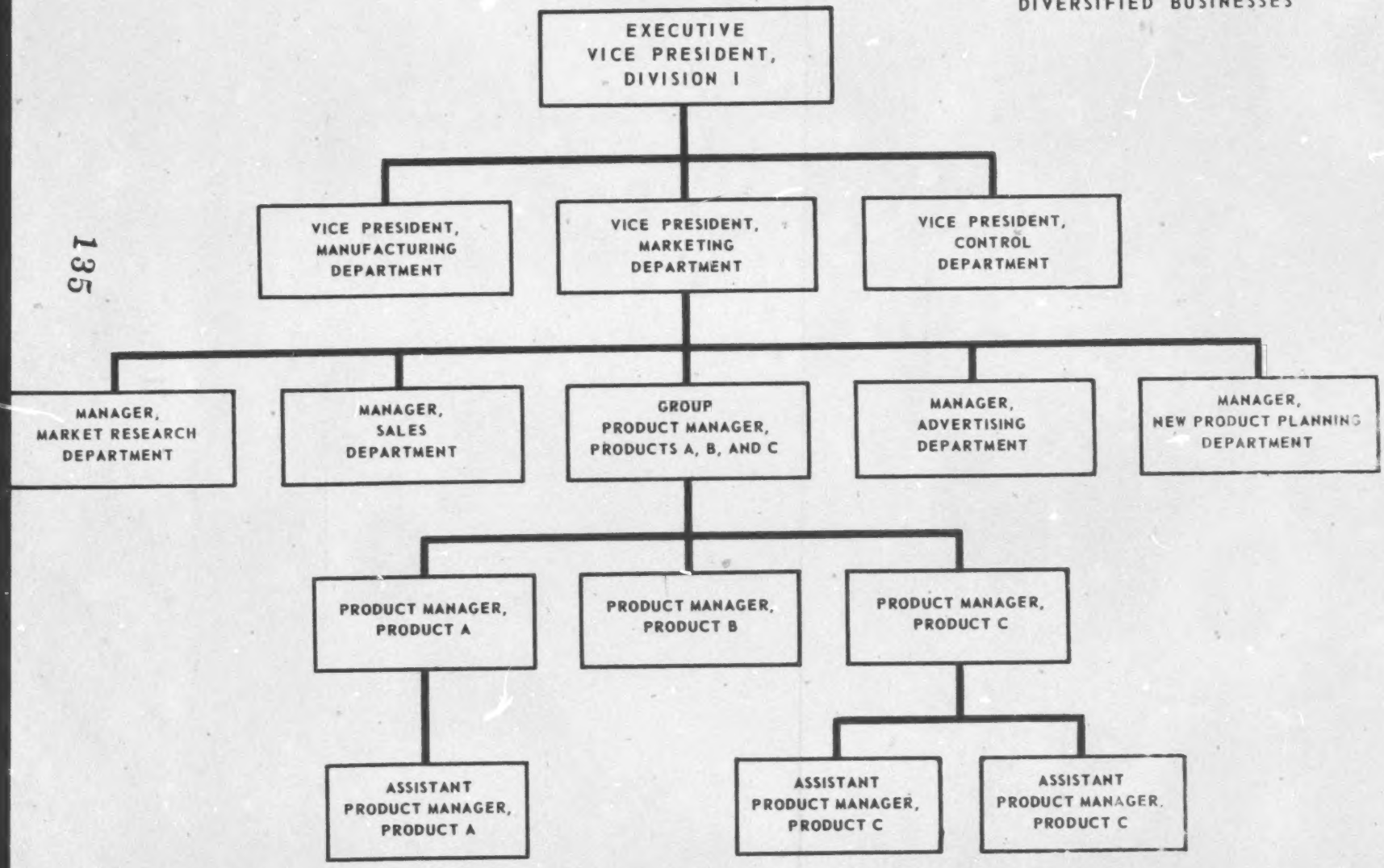
FRAMEWORK FOR DISSEMINATION: PRODUCT/BRAND MANAGEMENT ORGANIZATION IN LARGE, DIVERSIFIED BUSINESSES


EXECUTIVE VICE PRESIDENT, DIVISION I
VICE PRESIDENT, MANUFACTURING DEPARTMENT
VICE PRESIDENT, MARKETING DEPARTMENT
VICE PRESIDENT, CONTROL DEPARTMENT
MANAGER, MARKET RESEARCH DEPARTMENT
MANAGER, SALES DEPARTMENT
GROUP PRODUCT MANAGER, PRODUCTS A, B, AND C
MANAGER, ADVERTISING DEPARTMENT
MANAGER, NEW PRODUCT PLANNING DEPARTMENT
PRODUCT MANAGER, PRODUCT A
PRODUCT MANAGER, PRODUCT B
PRODUCT MANAGER, PRODUCT C
ASSISTANT PRODUCT MANAGER, PRODUCT A
ASSISTANT PRODUCT MANAGER, PRODUCT C
ASSISTANT PRODUCT MANAGER, PRODUCT C

Replacing product managers with market managers, the market management organization is similar to the pattern shown in Exhibit B-3.

The market management system encounters two primary problems. First, while he has responsibility for market penetration, the market manager has no real authority to direct the execution of approved marketing plans. As is the case for the product manager, he is dependent upon persuasion and effective interpersonal relationships to accomplish his mission. Second, if his division produces more than one basic product line, the market manager may be less knowledgeable regarding his products than his markets.

The market management form of organization is widely used in industrial markets, where customer needs are technically complex and where the market manager is in a position to develop a comprehensive understanding of these needs. Since the product enters into the user's own production process, and the end product is ultimately sold to the user's customers, the market manager has the option of promoting his products directly to their ultimate customers. By finding out how his product improves the end product, the market manager is sometimes able to pull his product through his customer's production process.

The industrial market manager is also attuned to other influences in the market he covers. For example, some customers are technological innovators and have a need to purchase the latest technical developments. Some purchasers face difficulty in gaining acceptance for even an improved

product when that product requires changes in the operation or administration of other parts of their organization. The market manager is aware of these influences, and he helps his division's sales force adapt to them.

REGIONAL MANAGEMENT

The regional management organization is similar to market management in purpose and operation. The need for regional management arises when there are great differences in the product needs, service needs, or market characteristics of specific geographic areas, and where these differences require separate managerial attention. A regional market manager is then assigned to each geographic area to assure adaptation of products, information service, sales management, and other aspects of the total marketing program. International enterprises frequently adopt a regional organization because of the differences they face in language, legal, and distribution requirements.

MATRIX AND MARKET CENTER MANAGEMENT

Many large, multidivisional business organizations, especially those serving industrial markets, reach a point where a multitude of different product lines are aimed at a large number of markets or market segments. Through acquisition or internal development, their product managers have developed a number of significant market outlets, or their market managers have developed many new products for their markets. A problem

develops in coordinating separate sales forces assigned to cover product lines or market segments. In addition, geographic areas may not get the attention they need. Under these circumstances, the product management approach would not work because markets and regions would be neglected. A market management system or regional management system would not maximize the company's volume or profitability because not all products would receive appropriate attention. Production managers would be frustrated as each market manager tried to change the products for his own markets, not considering the effect of these changes on other market managers.

One approach to these problems is to use both the product management and market management structures in the same division. Market managers retain prime responsibility for monitoring and developing their markets or segments. Product managers strive to maintain coherent, viable and profitable product lines that will fit the needs of the various market managers. Under this form of organization, both the markets and the products get the individual attention and planning needed to maximize volume and efficiency. On the other hand, inevitable conflicts arise between the market managers and product managers as to product changes or specifications. While product managers seek to maintain the integrity, profitability and manageability of their product lines, market managers look for product customization for every market segment in order to improve market penetration and therefore sales volume.

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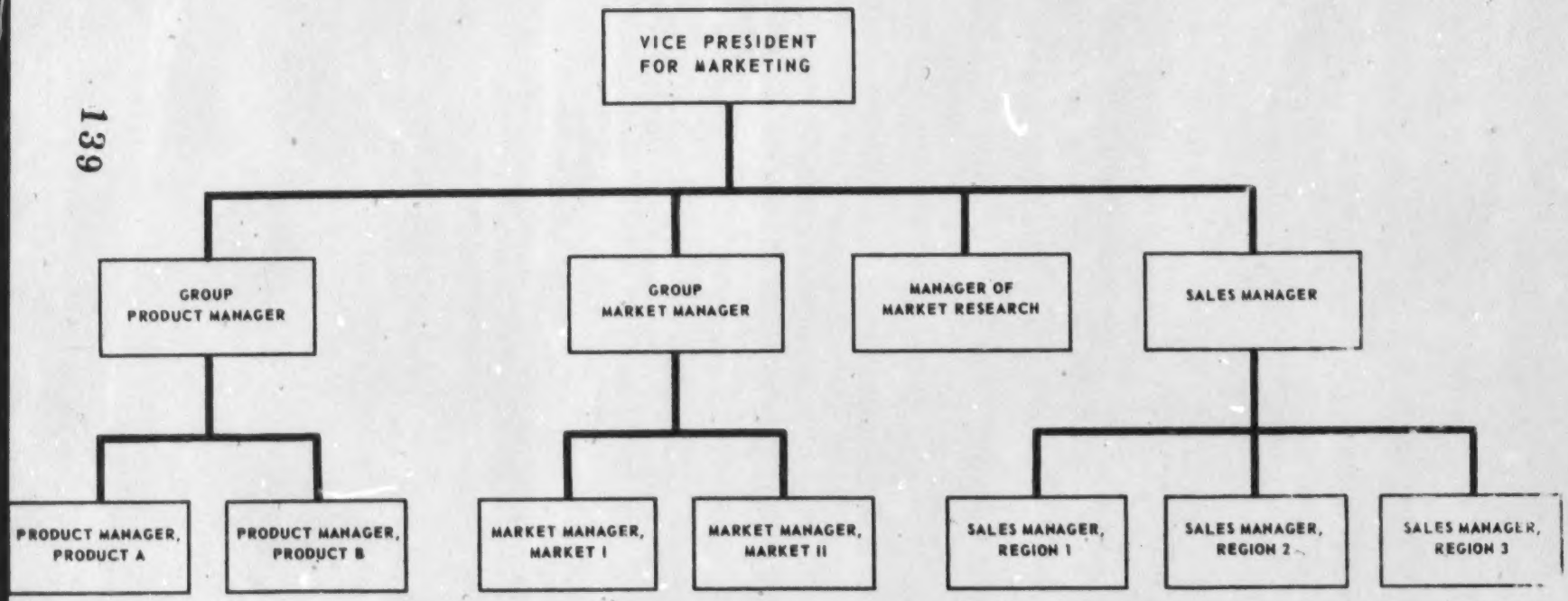
FRAMEWORK FOR DISSEMINATION:
MATRIX MANAGEMENT FORM
OF ORGANIZATION



Managing this conflict is a difficult but potentially rewarding task for senior marketing officers who must ensure that market and product managers work as a team. This team approach is designed to produce a compromise between product capabilities and customer requirements. The matrix management organization structure is shown in Exhibit B-4.

Regional needs or differences are handled through the sales force organization. This arrangement exerts great pressure on the sales force to have an intimate knowledge of both products and markets. The sales force itself may divide up along market lines in some cases, with a separate sales force for each major market.

Some of the largest multidivisional business organizations, including IBM, NCR, and General Foods, have come full circle in marketing orientation and structure, and are now organizing their entire corporate structures around their markets. These companies are now divisionalized by markets, with sales forces in each division/market, called marketcenters. Under this corporate form, where even production and research and development maybe placed in the marketcenter, the salesman becomes an account executive to his customers, calling in technical and product experts for specific applications in each individual marketing situation. These organizations retain both market and product managers, since the markets segments and products still need individual attention. However, the market manager assumes more line responsibilities, perhaps having sales forces reporting directly to him. The product manager remains in a staff role.

Marketcentering is particularly useful to enterprises that find their new product research functions developing products with inadequate market acceptance. By organizing the firm, from the sales force to the production function, around the market, marketcentering can stimulate new product ideas from knowledge of the market, its characteristics, and trends.

IBM's marketcenter approach calls for an organizational segmentation according to key markets, such as hospitals and supermarkets. NCR has been reorganizing its sales orientation from product lines to broadly defined markets. General Foods' approach to marketcenters has been to reorganize its divisions into separate marketing organizations that concentrate on promoting families of products, made under different technologies, to a given market segment.

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